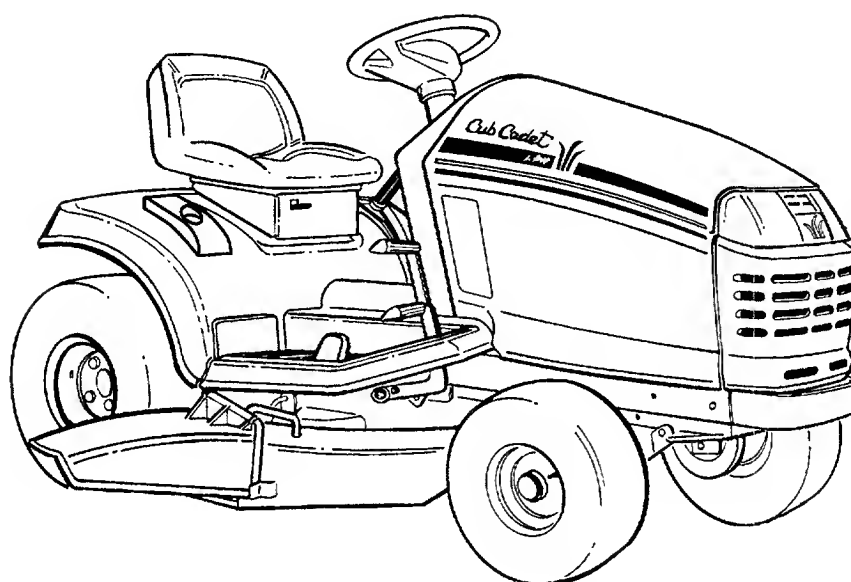




OWNER'S GUIDE



Series **2000**
TRACTOR
Model Numbers
2150
2155



IMPORTANT: READ SAFETY RULES AND INSTRUCTIONS CAREFULLY

Warning: This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator. In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your nearest engine authorized service dealer or contact the service department, P.O. Box 368022 Cleveland, Ohio 44136-9722.

MTD PRODUCTS INC. P.O. BOX 368022 CLEVELAND, OHIO 44136-9722

LIMITED WARRANTY

**TWO-YEAR RESIDENTIAL
ONE-YEAR COMMERCIAL**

Proper maintenance of your Cub Cadet equipment is the owner's responsibility. Follow the instructions in your owner's manual for correct lubricants and maintenance schedule. Your Cub Cadet dealer carries a complete line of quality lubricants and filters for your equipment's engine, transmission, chassis and attachments.

RIDING MOWERS, LAWN TRACTORS, GARDEN TRACTORS, CUB CADET ATTACHMENTS AND HOME MAINTENANCE PRODUCTS

This limited warranty for residential users, covers any defect in materials or workmanship in your Cub Cadet equipment for two years from the date of purchase for the first user purchaser. We will replace or repair any part or parts without charge through your authorized Cub Cadet dealer.

Batteries have a one-year prorated limited warranty with 100% replacement during the first three months.

V-belts for either the traction drive or any attachments are covered for one year only.

Cub Cadet equipment used commercially is warranted for one year only.

(Commercial use is defined as either having hired operators or used for income producing purposes.)

ITEMS NOT COVERED

The warranty does not cover routine maintenance items such as lubricants, filters (oil, fuel, air and hydraulic), cleaning, tune-ups, brake and/or clutch inspection, adjustments made as part of normal maintenance, blade sharpening, set-up, abuse, accidents and normal wear. It does not cover incidental costs such as transporting your equipment to and from the dealer, telephone charges or renting a product temporarily to replace a warranted product.

There is no other express warranty.

HOW TO OBTAIN SERVICE

Contact your authorized Cub Cadet servicing dealer who sold you your Cub Cadet equipment. If this dealer is not available, see the Consumer Yellow Pages under "lawn mowers" for the name of a dealer near you.

If you need further assistance in finding an authorized Cub Cadet servicing dealer, contact:

**Cub Cadet Corporation
Post Office Box 368023
Cleveland, Ohio 44136**

HOW DOES STATE LAW APPLY?

This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

CONTENTS

Section	Page	Section	Page	
	Warranty	2	VII Mowing.....	47
	Safe Operation Practices	3	Optional Equipment	
	Product Graphics	7	and Accessories.....	48
	To The Owner	8	Maintenance Chart.....	49
	Serial No. Location.....	8	Trouble Shooting.....	50
I	Controls and Indicators	9	Lubrication Table	52
II	Operation	14	Lubrication Guide	53
III	Adjustments	19	Specifications	56
IV	Maintenance	24	Slope Gauge	57
V	Mower Deck	34	Emission Control Systems Warranty	59
VI	Off-Season Storage	46		

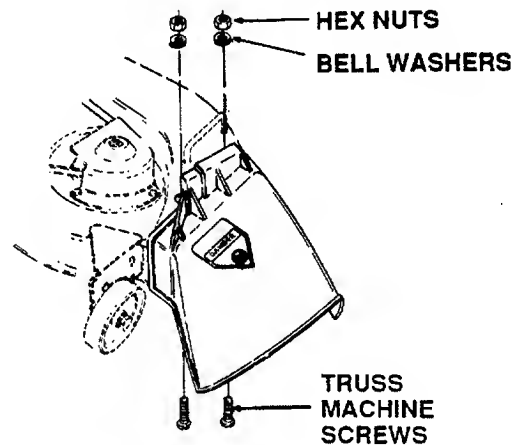
ATTACHING THE CHUTE DEFLECTOR



WARNING

Do not operate your unit unless the chute deflector has been properly installed.

1. Remove the truss machine screws, bell washer and hex nuts which are attached to the deck next to the chute opening.
2. Proper placement of the chute deflector will cover up the warning label on the chute opening. Place the deflector in position as shown. Secure with the hardware just removed.



WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



WARNING


This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered, or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the State of California, the above is required by law (Section 4442 of the California Public Resources Code). Other States may have similar laws. Federal laws apply to federal lands. A spark arrester muffler is available at your nearest engine authorized service center.

IMPORTANT

SAFE OPERATION PRACTICES



THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH, IF NOT FOLLOWED, COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE YOUR UNIT. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY. WHEN YOU SEE THIS SYMBOL—  **HEED ITS WARNING.**



DANGER

Your lawn mower was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in injury. This lawn mower is capable of amputating hands and feet or throwing objects. Failure to observe the following safety instructions could result in serious injury or death.



I. GENERAL OPERATION

1. Read, understand and follow all instructions in the manual and on the machine before starting. Keep this manual in a safe place for future and regular reference and for ordering replacement parts
2. Only allow responsible individuals familiar with the instructions to operate the machine. Know the controls and how to stop the machine quickly.
3. Do not put hands or feet under the cutting deck or near rotating parts.
4. Clear the area of objects such as rocks, toys, wire, etc. which could be picked up and thrown by the blades. A small object may have been overlooked and could be accidentally thrown by the mower in any direction and cause injury to you or a bystander. To help avoid a thrown objects injury, keep children, animals, bystanders and helpers at least 75 feet from the mower while it is in operation. Always wear safety glasses with side shields or safety goggles during operation or while performing an adjustment or repair, to protect eyes from foreign objects. Stop the blades when crossing gravel drives, walks or roads.
5. Be sure the area is clear of other people before mowing. Stop machine if anyone enters the area.
6. Never carry passengers.
7. Disengage the blades before shifting into reverse and backing up. Always look down and behind before and while backing.
8. Be aware of the mower and attachment discharge direction and do not point it at anyone. Do not operate the mower without either the entire grass catcher or the chute guard in place.
9. Slow down before turning. Operate the machine smoothly. Avoid erratic operation and excessive speed.
10. Never leave a running machine unattended. Always turn off the blades, place the transmission in neutral, set the parking brake, stop the engine and remove key before dismounting.
11. Turn off blades when not mowing.
12. Stop the engine and wait until the blades come to a complete stop before (a) removing the grass catcher or unclogging chute, or (b) making any repairs, adjusting or removing any grass or debris.
13. Mow only in daylight or good artificial light.
14. Do not operate the machine while under the influence of alcohol or drugs.
15. Watch for traffic when operating near or crossing roadways.
16. Use extra care when loading or unloading the machine into a trailer or truck. This unit should not be driven up or down a ramp onto a trailer or truck under power, because the unit could tip over causing serious personal injury. The unit must be pushed manually on a ramp to load or unload properly.
17. Never make a cutting height adjustment while the engine is running if the operator must dismount to do so.
18. Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts. Do not wear loose fitting clothes or jewelry. They can be caught in moving parts. Never operate a unit in bare feet, sandals or sneakers.
19. Check overhead clearance carefully before driving under power lines, wires, bridges or low hanging tree branches, before entering or leaving buildings, or in any other situation where the operator may be struck or pulled from the unit, which could result in serious injury.

20. Disengage all attachment clutches, thoroughly depress the brake pedal and shift into neutral before attempting to start the engine.
21. Your mower is designed to cut normal residential grass of a height no more than 10". Do not attempt to mow through unusually tall, dry grass (e.g. pasture) or piles of dry leaves. Debris may build up on the mower deck or contact the engine exhaust presenting a potential fire hazard.
22. Use only accessories approved for this machine by *Cub Cadet*. Read, understand and follow all instructions provided with the approved accessory.

II. SLOPE OPERATION

Slopes are a major factor related to loss of control and tip-over accidents, which can result in severe injury or death. **All** slopes require extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.

For your safety, use the slope gauge included as part of this manual to measure slopes before operating this unit on a sloped or hilly area. If the slope is greater than 15° as shown on the slope gauge, do not operate this unit on that area or serious injury could result.

DO:

Mow up and down slopes, not across.

Remove obstacles such as rocks, limbs, etc.

Watch for holes, ruts or bumps. Uneven terrain could overturn the machine. **Tall grass can hide obstacles.**

Use slow speed. Choose a low enough gear so that you will not have to stop or shift while on the slope. Always keep the machine in gear when going down slopes to take advantage of engine braking action.

Follow the manufacturer's recommendations for wheel weights or counterweights to improve stability.

Use extra care with grass catchers or other attachments. These can change the stability of the machine.

Keep all movement on the slopes **slow** and **gradual**. Do not make sudden changes in speed or direction. Rapid engagement or braking could cause the front of the machine to lift and rapidly flip over backwards, which could cause serious injury.

Avoid starting or stopping on a slope. If the tires lose traction, disengage the blades and proceed slowly **straight** down the slope.

DO NOT:

Do not turn on slopes unless necessary; then, turn slowly and gradually downhill, if possible.

Do not mow near drop-offs, ditches or embankments. The mower could suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.

Do not mow on wet grass. Reduced traction could cause sliding.

Do not try to stabilize the machine by putting your foot on the ground.

Do not use the grass catcher on steep slopes.

III. CHILDREN

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and the mowing activity. **Never** assume that children will remain where you last saw them.

1. Keep children out of the mowing area and in watchful care of an adult other than the operator.
2. Be alert and turn the machine off if children enter the area.
3. Before and when backing up, look behind and **down** for small children.
4. Never carry children, even with the blades off. They may fall off and be seriously injured or may interfere with safe machine operation.
5. Never allow children under 14 years old to operate the machine. Children 14 years and over should only operate the machine under close parental supervision and proper instruction.
6. Use extra care when approaching blind corners, shrubs, trees or other objects that may obscure your vision of a child or other hazard.
7. Remove the key when the machine is left unattended to prevent unauthorized operation.

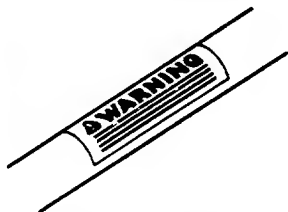
IV. SERVICE

1. Use extreme care in handling gasoline and other fuels. They are extremely flammable and the vapors are explosive.
 - a. Use only an approved container.
 - b. Never remove fuel cap or add fuel with the engine running. Allow the engine to cool at least two minutes before refueling.
 - c. Replace the fuel cap securely and wipe off any spilled fuel before starting the engine as it may cause a fire or explosion.

- d. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
 - e. Never refuel the machine indoors because fuel vapors will accumulate in the area.
 - f. Never store the fuel container or machine inside where there is an open flame or spark, such as a gas hot water heater, space heater or furnace.
2. Never run a machine inside a closed area.
 3. To reduce fire hazard, keep the machine free of grass, leaves or other debris build-up. Clean up oil or fuel spillage. Allow the machine to cool at least 5 minutes before storing.
 4. Before cleaning, repairing or inspecting, make certain the blade and all moving parts have stopped. Disconnect the spark plug wire, and keep the wire away from the spark plug to prevent accidental starting.
 5. Check the blade and engine mounting bolts at frequent intervals for proper tightness. Also visually inspect blades for damage (e.g., excessive wear, bent, cracked). Replace with blades which meet original equipment specifications.
 6. Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
 7. Never tamper with safety devices. Check their proper operation regularly. Use all guards as instructed in this manual.
 8. After striking a foreign object, stop the engine, remove the wire from the spark plug and thoroughly inspect the mower for any damage. Repair the damage before restarting and operating the mower.
 9. Grass catcher components are subject to wear, damage and deterioration, which could expose moving parts or allow objects to be thrown. For your safety protection, frequently check the components and replace with manufacturer's recommended parts when necessary.
10. Mower blades are sharp and can cut. Wrap the blades or wear gloves, and use extra caution when servicing blades.
 11. Check brake operation frequently. Adjust and service as required.
 12. Muffler, engine and belt guards become hot during operation and can cause a burn. Allow to cool down before touching.
 13. Do not change the engine governor settings or overspeed the engine. Excessive engine speeds are dangerous.
 14. Observe proper disposal laws and regulations. Improper disposal of fluids and materials can harm the environment and the ecology.
 - a. Prior to disposal, contact your local Environmental Protection Agency to determine the proper method for disposing of the waste. Recycling centers are established to properly dispose of materials in an environmentally safe fashion.
 - b. Use proper containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them. Properly dispose of the containers immediately following the draining of fluids.
 - c. DO NOT pour oil or other fluids into the ground, down a drain or into a stream, pond, lake, or other body of water. Observe Environmental Protection Agency regulations when disposing of oil, fuel, coolant, brake fluid, filters, batteries, tires and other harmful waste.



**OWNER'S
MANUAL**



SAFETY LABEL



WARNING – YOUR RESPONSIBILITY

Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.

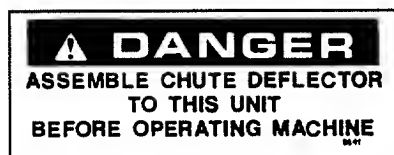
PRODUCT GRAPHICS

Keep safety product graphics (decals) clean. Replace any safety graphic that is damaged, destroyed, miss-

ing, painted over or can no longer be read. Replacement safety graphics are available through your dealer.



GENERAL SAFETY INSTRUCTIONS
WARNING – LOCATED ON RIGHTTTT
SIDE OF RUNNING BOARD
(MODEL 2155 SHOWN)



DEFLECTOR SAFETY GRAPHIC–
LOCATED ON DECK



SAFETY GRAPHIC – LOCATED ON
LEFT SIDE OF MOWER DECK



HANDS AND FEET SAFETY GRAPHIC–
LOCATED ON DEFLECTOR CHUTE



SAFETY GRAPHIC – LOCATED
ON RIGHT SIDE OF DECK

TO THE OWNER

Cub Cadet tractors, Models 2150 and 2155, are shipped with a 42-inch deck. Contained in this manual are operation, lubrication and maintenance instructions for this equipment. The material has been prepared in detail to help you better understand the correct care and efficient operation of your tractor. Before you operate the tractor, study this manual carefully. Additional copies may be ordered from your dealer at a nominal price.

Your local authorized dealer is interested in the performance you receive from your tractor. He has factory-trained servicemen who are informed in the latest method of servicing tractors, modern tools, and original-equipment service parts which assure proper fit and good performance.



CAUTION

DO NOT tow your Model 2155 tractor. Towing may damage the transmission. Place the tractor on a LEVEL SURFACE before pulling the transmission release lever to the disengaged position.

SERIAL NUMBER LOCATION



NOTE

References to LEFT and RIGHT indicate that side of the tractor when facing forward while seated in the drivers seat. Reference to FRONT indicates the grille end of the tractor; to REAR, the drawbar end.

The chassis serial number plate is on the left side of frame under the running board (Refer to Figure 1).

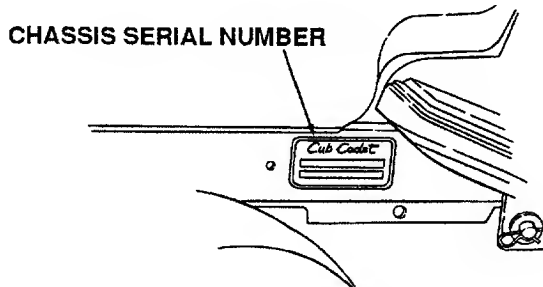


Figure 1

The *Cub Cadet* gear drive (Model 2150) system or hydrostatic drive (Model 2155) systems will require minimal service if recommended operation and maintenance procedures are followed.

To obtain top performance and assure economical operation, the tractor should be inspected by your authorized dealer periodically or at least once a year, depending on its hours of use.

When in need of parts, always specify the model number, and the chassis and engine serial numbers (including the prefix and suffix letters). Write these serial numbers in the space provided on this page.

Should you have difficulties with the unit, consult your authorized dealer. UNDER NO CIRCUMSTANCES SHOULD YOU ATTEMPT TO SERVICE THESE UNITS YOURSELF. Only your dealer is authorized, under the terms of the warranty, to repair or replace drive components of the unit. Should you desire additional information not found in this manual, contact your authorized *Cub Cadet* dealer.

The engine serial number decal is located on the right side of engine blower housing (Refer to Figure 2).

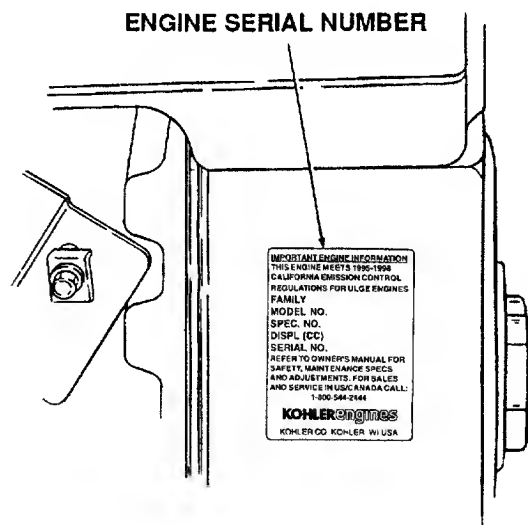


Figure 2

MODEL _____

DELIVERY DATE _____

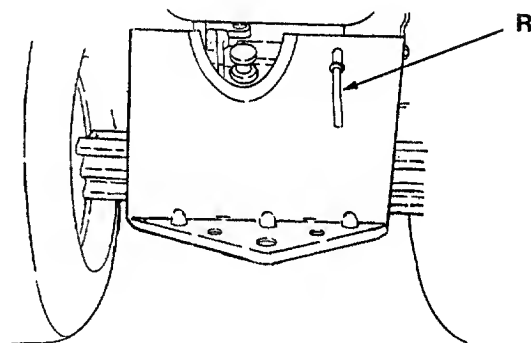
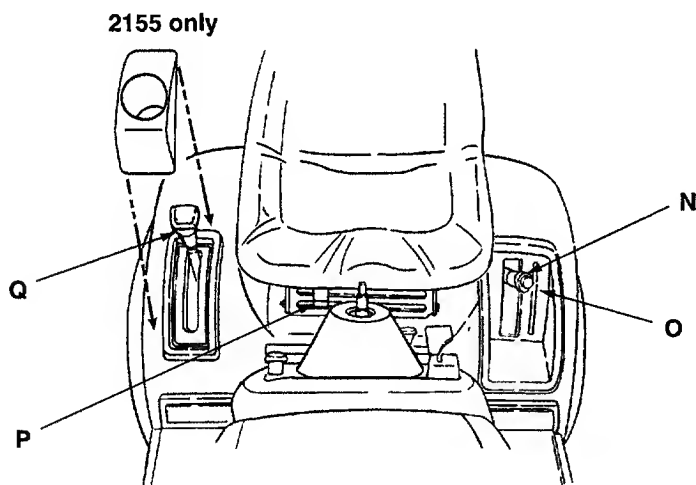
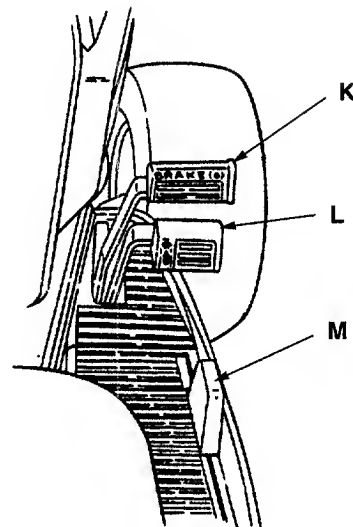
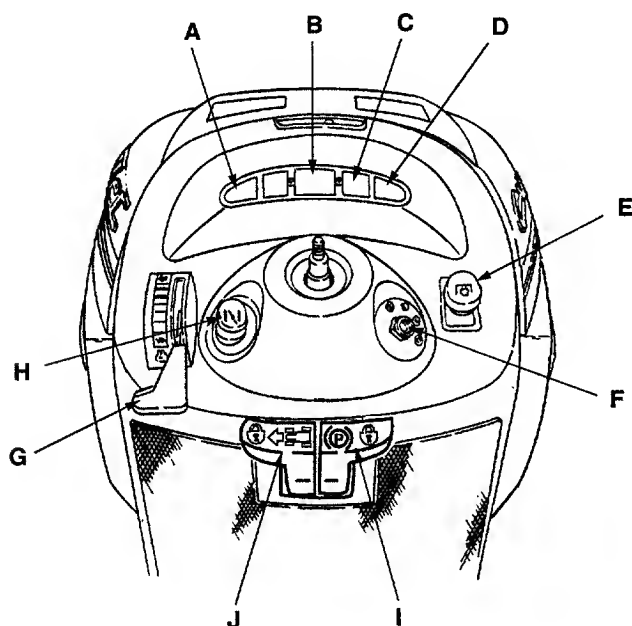
CHASSIS SERIAL NO. _____

ENGINE SERIAL NO. _____

SECTION I. CONTROLS AND INDICATORS

Your Cub Cadet Tractor has been safety engineered. Thoroughly acquaint yourself with all the controls and

indicators before attempting to start or operate the tractor.



- A. Low Oil Indicator
- B. Hour Meter
- C. Clutch Engagement Indicator
- D. Amp Indicator
- E. Power Take-Off (PTO) Control Switch
- F. Ignition/Light Switch
- G. Throttle Control Lever
- H. Choke Control
- I. Brake Pedal Lock
- J. Cruise Control Lever

- K. Brake Pedal
- L. Forward Control Pedal
- M. Reverse Control Pedal
- N. Lift Handle
- O. Lift Height Indicator
- P. Seat Adjustment Lever
- Q. Speed Control Lever (2150 only)
- R. Transmission Release Lever (2155 only)
- S. Fuses (Not Shown)
- T. Safety Interlock Switches (Not Shown)

Figure 3

A. LOW OIL INDICATOR



CAUTION

Operating the tractor with low oil level or pressure could result in severe engine damage.

This indicator will illuminate when the engine oil level is low. If this indicator illuminates, stop the tractor immediately and check the engine oil level. If the oil level is within the operating range, but the light remains on, contact your *Cub Cadet* dealer.

B. HOUR METER

The hour meter operates whenever the ignition key is in the "ON" position. Record the actual hours of tractor operation to ensure all maintenance procedures are completed according to the schedule in this manual.

C. CLUTCH ENGAGEMENT INDICATOR (2150 only)

This indicator is illuminated at all times, EXCEPT when the **forward control pedal** is fully depressed. If the light comes on while driving **forward**, depress the control pedal completely. If the light stays on with the pedal fully depressed, contact your *Cub Cadet* dealer.

D. AMP INDICATOR

This indicator will illuminate when the tractor's voltage sensor reads low battery voltage. If the light stays on, contact your *Cub Cadet* dealer.

E. POWER TAKE-OFF (PTO) CONTROL SWITCH

The power take-off control switch operates the front electric PTO clutch. Pull the switch knob to engage ("RUN"), or push the knob to disengage ("OFF") the PTO clutch.

F. IGNITION/LIGHT SWITCH



WARNING

To prevent accidental starting and/or battery discharge, remove the key from the ignition switch when the tractor is not in use.

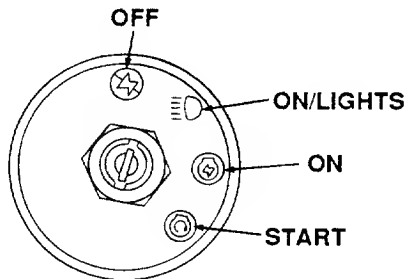


Figure 4

The combination lights and ignition switch is a four position switch. (See Figure 4).

G. THROTTLE CONTROL LEVER

This lever controls the speed of the engine. When set in a given position, the control cable will maintain a uniform engine speed.



NOTE

When using power take-off operated equipment, best performance is achieved with the throttle lever in the "FAST" position.



This symbol shows slow position.

This symbol shows fast position.

H. CHOKE CONTROL

The choke control is operated manually. Pull the knob out to choke the engine; push the knob in to open the choke.

I. BRAKE PEDAL LOCK



WARNING

The hydrostatic transmission (Model 2155) will not hold the tractor on a hill. Normal internal leakage in the transmission will allow the tractor to roll downhill. To avoid an accident and/or possible injury, engage the brake pedal lock.

The brake lock lever, located in the center of the dash panel below the steering wheel, is identified with the (P) symbol. Always engage the brake pedal lock when dismounting the tractor. To engage the brake pedal lock, depress the brake pedal and push down on the brake pedal lock lever. Hold the lever down while releasing the brake pedal. The lever should lock in the down position.

J. CRUISE CONTROL LEVER

The cruise control lever, located in the center of the dash panel below the steering wheel, is identified with the symbol. This lever can be used to maintain a desired "foot free" **forward speed** in areas where constant speed changes are not required.

K. BRAKE PEDAL

The brake pedal is located at the front of the right running board above the forward control pedal. Press down to stop the tractor and disengage the cruise control. The brake pedal must be fully depressed to activate the safety interlock switch when starting the tractor.

L. FORWARD CONTROL PEDAL

The forward control pedal is located at the front of the right running board below the brake pedal:

Model 2150 — Slowly press down on the pedal until **fully depressed** to drive in the forward direction. The *clutch engagement indicator* (C) will light whenever the control pedal is not fully depressed.

Model 2155 — Slowly press down on the pedal to start moving forward. The forward ground speed of the tractor is directly affected by the distance the pedal is depressed.

M. REVERSE CONTROL PEDAL



WARNING

Check behind the tractor to be sure the area is clear of people, pets or obstacles. Use a slower speed to maintain control of the tractor when traveling in reverse.

The reverse control pedal is located in the right front running board, rearward of the the brake and forward control pedals. Press the pedal downward to move in reverse.

N. LIFT HANDLE

The lift handle is located in the left fender and is used to raise and lower equipment used with the tractor. The equipment can be set in any of six positions by depressing the top button on the handle, moving the handle to the desired position, then releasing the button. It may be necessary to push or pull slightly on the handle to depress the button. There is a lift assist spring which reduces the effort needed to lift attachments. To adjust spring tension refer to **ADJUSTMENTS** in Section III.

O. LIFT HEIGHT INDICATOR

The lift height indicator is located in the left fender and indicates the height of the deck attachment when installed.

P. SEAT ADJUSTMENT LEVER

The seat adjustment lever (see Figure 5) is used to move the seat forward or rearward into one of five positions. See **ADJUSTING THE SEAT** in section III.

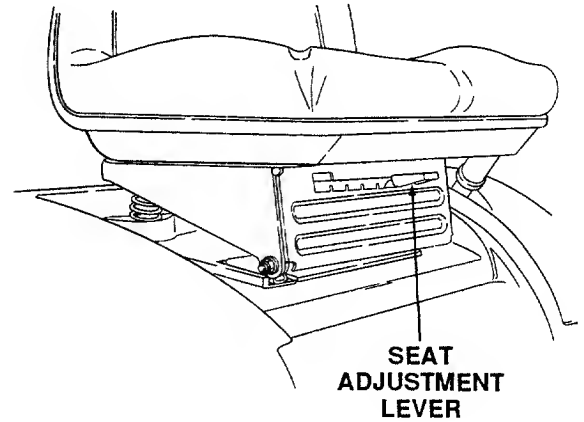


Figure 5

Q. SPEED CONTROL LEVER (2150 only)

The speed control lever is located in the right fender and is used to shift into any one of the six gear speeds in the forward and reverse directions.

Shifting the speed control lever to a higher gear setting (higher number on shift cover) provides increased forward and reverse speeds. The speed control lever **cannot** be shifted when either the forward or reverse control pedals are depressed.

R. TRANSMISSION RELEASE LEVER (2155 only)

The transmission release lever is located at the back of the tractor in the rear drawbar. This lever disconnects the hydro transmission pump from the rear axle to allow the unit to be pushed a short distance by hand.

To disengage the transmission, pull back on the lever until its locking flange is visible outside the drawbar, then lift the lever up into the slot and release. To re-engage the transmission, pull back on the lever, drop out of the slot and release.

S. FUSES

The fuses are located under the hood on the back of the indicator lamp housing of the dash panel (see Figure 6). Fuses are installed to protect the tractor's electrical circuitry and components from damage caused by excessive amperage.

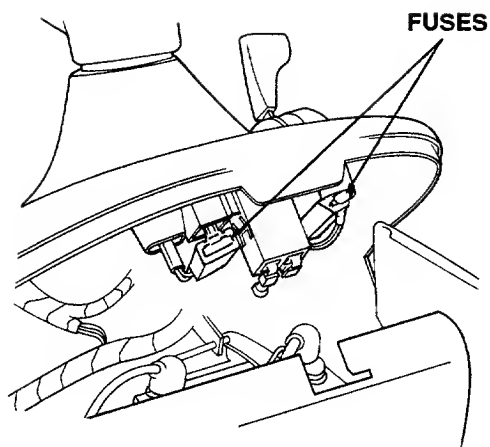


Figure 6. Model 2155 Shown.

T. SAFETY INTERLOCK SWITCHES

This tractor is equipped with a safety interlock system for the protection of the operator. If the interlock system should ever malfunction, do not operate the tractor. Contact your authorized *Cub Cadet* Dealer. The safety interlock system prevents the engine from cranking or starting unless the brake pedal is fully depressed, and the PTO switch is in the "OFF" position.

The safety interlock system will automatically shut off the engine if the operator leaves the seat before engaging the brake lock.

The safety interlock system will automatically shut off the engine if the operator leaves the seat with the PTO in the "RUN" position, regardless of whether the brake lock is engaged. The PTO switch must be moved to the "OFF" position to restart the engine.

The safety interlock system will automatically shut off the PTO if the *reverse control pedal* is depressed with the PTO in the "RUN" position. To re-engage the PTO, release the reverse control pedal, move the PTO switch to the "OFF" position, then again pull the switch to the "RUN" position.

FUEL TANK

The fuel tank is located under the rear fender. The filler cap is in the center/rear of the fender (see Figure 7).

HOOD AND SIDE PANELS

The tractor hood is arranged to swing up and forward for easy access to the engine compartment (see Figure 8). Whenever engine maintenance is required, the side panels can be removed.

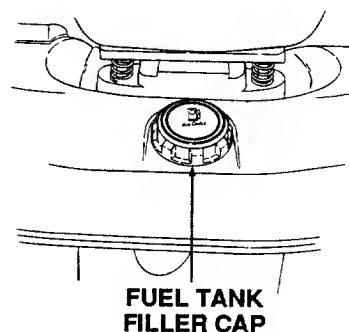


Figure 7



WARNING

If the engine has been recently run, the engine, muffler and surrounding metal surfaces will be hot and can cause burns to the skin. Allow the tractor to cool and use caution when removing the side panels.

To remove either the right or left side panel, refer to Figure 8 and proceed as follows:

1. Engage the brake lock and raise the hood.
2. Loosen, but do not remove, the rear wing nut and upper front wing nut.
3. Grasp the side panel just behind the grille and pull outward to release the side panel from the tapered bushings on the grille.
4. Slide the side panel forward and out of the slot in the dash panel.

To install either the right or left side panel, refer to Figure 8 and proceed as follows:

1. Slide the rear of panel into the groove in the dash panel.
2. Position the notch of the rear side panel tab on the threads of the bulkhead rod, between the bulkhead and wing nut.
3. Press the slots of the front side panel flange onto the tapered retainers, between the retainers and the grille.
4. Tighten the rear and upper front wing nuts and close the hood.

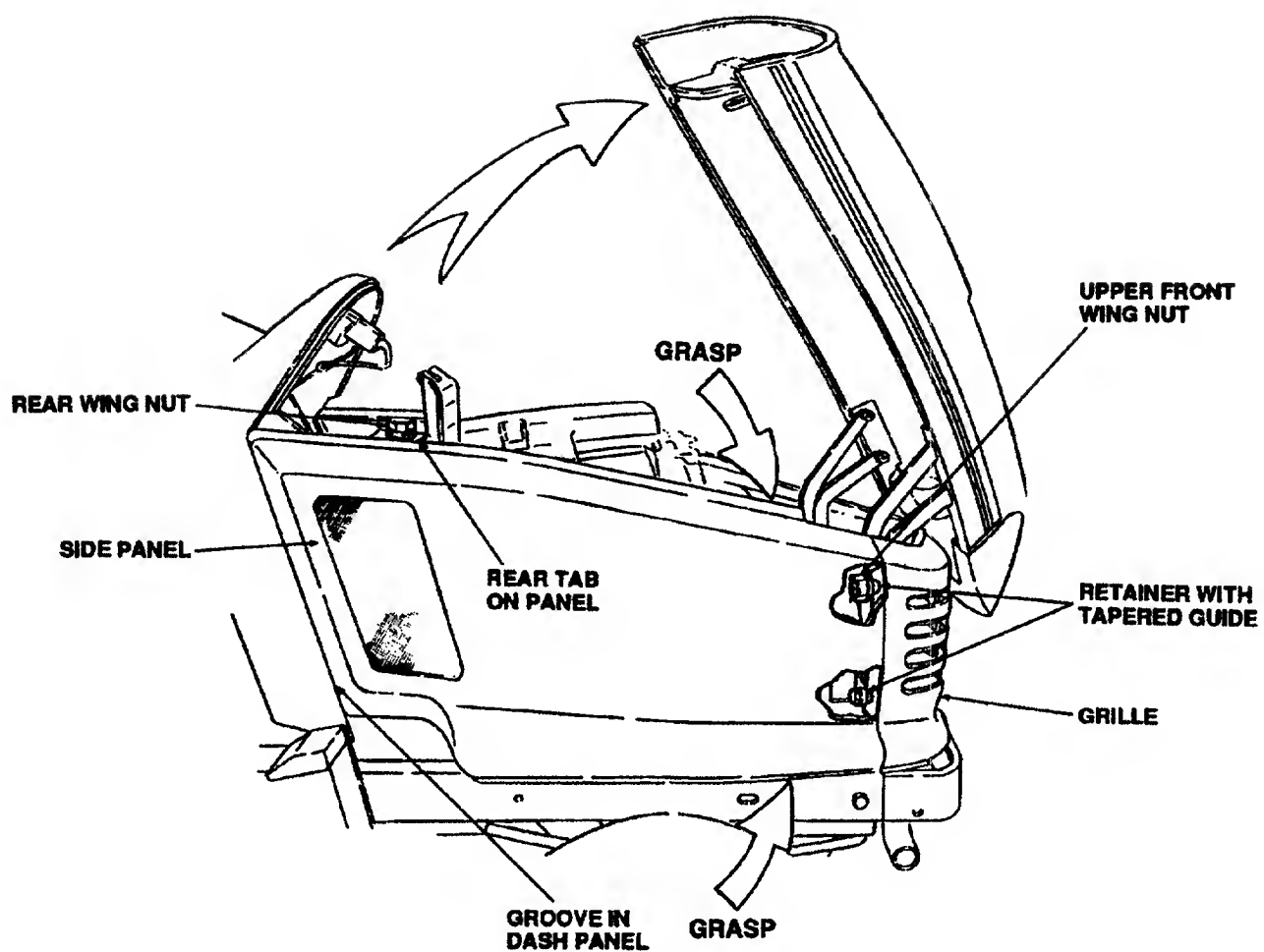


Figure 8

SECTION II. OPERATION



WARNING

RECEIVE INSTRUCTION - Read the operator's manual. Learn to operate this machine **SAFELY**. Don't risk **INJURY** or **DEATH**.

1. Before starting the engine or beginning operation, be familiar with the controls. The operator must be seated, the PTO switch in the "OFF" position and the brake pedal fully depressed.
2. Keep all shields in place. Keep away from moving parts.
3. **NO RIDERS!** Keep all people and pets a safe distance away. Look behind to both sides before backing up.
4. **DO NOT** direct the mower discharge at people.
5. Avoid slopes. Tractors can be rolled over.
6. Before leaving the operator's seat: Shut off the PTO, engage the brake pedal lock, shut off the engine and remove the ignition key. Wait for all movement to stop before servicing or cleaning.
7. Do not fill the fuel tank when the engine is running or while the engine is hot. Tighten the fuel cap securely.

BEFORE OPERATING YOUR TRACTOR

1. Before you operate the tractor, study this manual carefully. It has been prepared to help you operate and maintain your tractor with utmost efficiency.
2. Familiarize yourself with the operations of all the instruments and controls.
3. This engine is certified to operate on unleaded gasoline. For best results, fill the fuel tank with only clean, fresh, unleaded gasoline with a pump sticker octane rating of 87 or higher. In countries using the Research method, it should be 90 octane minimum.

Unleaded gasoline is recommended because it leaves less combustion chamber deposits. Lead-ed gasoline may be used in areas where unleaded is not available and exhaust emissions are not regulated. Be aware however, that the cylinder head may require more frequent service.

Gasohol (up to 10% ethyl alcohol, 90% unleaded gasoline by volume) is an approved fuel. Other gasoline/alcohol blends are not approved.

Methyl Tertiary Butyl Ether (MTBE) and unleaded gasoline blends (up to a maximum of 15% MTBE by volume) are approved fuels. Other gasoline/ether blends are not approved.

4. Check the engine and transmission oil levels.
5. Clean the air cleaner element if necessary.
6. Check the tire inflation pressures.
7. Adjust the seat for operator's maximum comfort, visibility and for maintaining complete control of the tractor.
8. Remove the side panels and clean any accumulated grass and debris from the engine air inlet screen. Also clean the dash air intake screen, grille and side panels to ensure adequate cooling.
9. Refer to the various sections of the Owner's Manual for additional information.

STARTING THE ENGINE



WARNING

Do not operate the tractor if the interlock system is malfunctioning. It is a safety device designed for the protection of the operator.



WARNING

For personal safety, the operator must be sitting in the tractor seat before starting the tractor.



NOTE

This unit is equipped with a safety interlock system for the protection of the operator.

The safety interlock system prevents the engine from cranking or starting unless the brake pedal is fully depressed and the PTO clutch engagement switch is in the "OFF" position.

The safety interlock system will automatically shut off the engine if the operator leaves the seat before engaging the brake pedal lock.

NOTE

The safety interlock system will automatically disengage the PTO if the reverse control pedal is pressed down with the PTO in the "RUN" position. To re-engage the PTO, release the reverse control pedal, move the PTO switch into the "OFF" position and then engage the PTO while seated.

NOTE

The safety interlock system will automatically shut off the tractor engine if the operator leaves the seat with the PTO in the "RUN" position.

1. Operator must be sitting in the tractor seat.
2. Pull choke control knob to full choke position. Less choking may be necessary due to variations in temperature, grade of fuel, etc. Little or no choking will be needed when the engine is warm.
3. Place the throttle midway between the "SLOW" and "FAST" position.
4. Place the PTO switch in the "OFF" position.
5. Fully depress the brake pedal.
6. Turn the ignition key clockwise to the "START" position and release it as soon as the engine starts; however, do not crank the engine continuously for more than 10 seconds at a time. If the engine does not start within this time, turn the key "OFF" and wait a minute to allow the engine's starter motor to cool, then try again.
7. After the engine starts, slowly release the brake pedal. As the engine warms up, gradually push the choke control knob all the way in. Do not use the choke to enrich the fuel mixture, except as necessary to start the engine.

STOPPING THE ENGINE

CAUTION

Remove the key from the ignition switch to prevent accidental starting or battery discharge if the equipment is left unattended.

Place the PTO switch in the "OFF" position. Move the throttle control lever to the "SLOW" position and allow the engine to idle for a short time before stopping.

Then turn the ignition key to the "OFF" position. Remove the key from the ignition switch.

TRACTOR BREAK-IN PROCEDURE

CAUTION

Never operate a new engine immediately under full load. Break it in carefully as shown in the table below.

Period	Engine Throttle Control Lever Position			Load
	½	¾	Full	
1st hour	X			None
2 hour	X		X	Light drawbar load or Mowing with tractor at slow speed
3rd through 13th hour		X	X	Medium drawbar load or Normal mowing

COLD WEATHER STARTING

WARNING

Engine exhaust gases are dangerous. Do not run the engine in a confined area such as a storage building any longer than is necessary. Immediately move the tractor outdoors.

WARNING

For personal safety, the operator must be sitting in the tractor seat before starting the tractor.

When starting the engine at temperatures near or below freezing, ensure the correct viscosity motor oil is used in the engine and the battery is fully charged. Start the engine as follows:

1. Pull the choke all the way out to full choke position.
2. Move the throttle control lever to midway between the "SLOW" and "FAST" position.
3. Place the PTO switch in the "OFF" position.
4. Fully depress the brake pedal.

5. Turn the ignition key to the "START" position and hold until the engine starts; however, do not crank the engine continuously for more than 10 seconds at a time. Once the engine starts, gradually adjust the choke as needed to keep the engine running until warmed up, then push the choke control all the way in.

NOTE

If the engine fails to start after several attempts, the engine may become flooded. If this happens, wait a minute to allow the starter motor to cool. Move the throttle control to the "SLOW" position, push the choke in all the way and momentarily crank the engine to help clear the cylinders. With the throttle control in the "SLOW" position and the choke all the way in, turn the ignition key to the "START" position while slowly pulling the choke out to a position that will allow the engine to start. Gradually adjust the choke as needed to keep the engine running until warmed up, then push the choke control all the way in.

DRIVING THE TRACTOR (Model 2150)

CAUTION

Avoid sudden starts, excessive speed and sudden stops.

CAUTION

Do not leave the seat of the tractor without disengaging the PTO, depressing the brake pedal and engaging the brake pedal lock. If leaving the tractor unattended, also turn the ignition key off and remove the key.

NOTE

When using power take-off operated equipment, best performance is achieved with the throttle lever in the "FAST" position. When using front or rear mounted equipment, refer to the Equipment Owner's Manual for the proper ground speed.

1. Depress the brake pedal to release the brake pedal lock and let the pedal up. Move the throttle lever to

the position where the engine operates best for the load to be handled (normally full throttle).

2. Shift the speed control lever to the desired gear setting.

CAUTION

When driving the tractor in the forward direction, the forward control pedal **must always be fully depressed**. Illumination of the *clutch engagement indicator light* on the dash panel indicates the pedal is not completely depressed. Driving the tractor with the control pedals partially depressed can cause premature internal wear and eventual failure of the tractor's drive clutch assembly.

3. Driving with forward or reverse pedals.

CAUTION

Do not use the forward or reverse control pedals to change the direction of travel when the tractor is in motion. Use the brake pedal to bring the tractor to a stop before depressing either the forward or reverse control pedal.

- a. To move forward, slowly depress the forward control pedal until **completely depressed**.
- b. To move in reverse, check that the area behind is clear then fully depress the reverse control pedal.

4. Using the cruise control lever.

NOTE

The cruise control feature can only be operated in the forward direction.

- a. Slowly depress the forward control pedal until fully depressed.
- b. Lightly push the cruise control lever downward as far as possible and hold in this position.
- c. While continuing to hold the cruise lever down, lift your foot from the forward control pedal (you should feel the cruise latch engage).
- d. If properly engaged, the cruise lever and forward control pedal should lock in the down position, and the tractor will maintain its forward speed.

- e. Disengage the cruise control using one of the following methods:
 - Depress the brake pedal to disengage the cruise control and stop the tractor.
 - Depress the forward control pedal.
 - Lift the cruise control lever upward.

NOTE

Although not recommended, depressing the reverse pedal will also disengage the cruise control.

- f. To change to the reverse direction when operating with cruise control, depress the brake pedal to disengage the cruise control and stop the tractor; then depress the reverse control pedal.
5. To change ground speed of the tractor while it is in motion, release the forward or reverse control pedal and depress the brake pedal to stop the tractor (also disengaging the cruise control). The speed control lever can then be shifted to the desired gear setting, and the appropriate control pedal depressed to continue travel.

DRIVING THE TRACTOR (Model 2155)

CAUTION

Avoid sudden starts, excessive speed and sudden stops.

CAUTION

Do not leave the seat of the tractor without disengaging the PTO, depressing the brake pedal and engaging the brake pedal lock. If leaving the tractor unattended, also turn the ignition key off and remove the key.

NOTE

When using power take-off operated equipment, best performance is achieved with the throttle lever in the "FAST" position. When using front or rear mounted equipment, refer to the Equipment Owner's Manual for the proper ground speed.

1. Depress the brake pedal to release the brake pedal lock and let the pedal up. Move the throttle lever to the position where the engine operates best for the load to be handled (normally full throttle).

2. Driving with forward or reverse pedals.

CAUTION

Do not use the forward or reverse control pedals to change the direction of travel when the tractor is in motion. Use the brake pedal to bring the tractor to a stop before depressing either the forward or reverse control pedal.

- a. To move forward, slowly depress the forward control pedal until the desired speed is achieved.
- b. To move in reverse, check that the area behind is clear then fully depress the reverse control pedal.

3. Using the cruise control lever.

NOTE

The cruise control feature can only be operated in the forward direction.

- a. Slowly depress the forward control pedal until the desired speed is achieved.
- b. Lightly push the cruise control lever downward as far as possible and hold in this position.
- c. While continuing to hold the cruise lever down, lift your foot from the forward control pedal (you should feel the cruise latch engage).
- d. If properly engaged, the cruise lever and forward control pedal should lock in the down position, and the tractor will maintain the same forward speed.
- e. Disengage the cruise control using one of the following methods:
 - Depress the brake pedal to disengage the cruise control and stop the tractor.
 - Lightly depress the forward control pedal.
 - Lift the cruise control lever upward.

NOTE

Although not recommended, depressing the reverse pedal will also disengage the cruise control.

- f. To change to the reverse direction when operating with cruise control, depress the brake pedal to disengage the cruise control and stop the tractor; then depress the reverse control pedal.

DRIVING ON SLOPES

Refer to the SLOPE GAUGE on page 57 to help determine slopes where you may not operate safely.



WARNING

Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2-1/2 feet every 10 feet). The tractor could overturn and cause serious injury.



WARNING

Operate the tractor up and down slopes, never across slopes. Always drive up or down the face of a slope. Do not drive so that the tractor may tip over sideways.

Before operating the tractor on any slope, walk the slope to look for possible hazards such as rocks, mounds, ruts, stumps or other surface irregularities which could cause the tractor to be upset.

Back the tractor with implement up the steepest portion of each slope you intend to work. If the tractor cannot negotiate the slope in reverse, the slope is too steep to be worked.

Avoid turns when driving on a slope. If a turn must be made, turn **down** the slope. Turning up a slope greatly increases the chance of a roll over.

Avoid stopping when driving up a slope. If it is necessary to stop while driving up a slope, start up smoothly and carefully to reduce the possibility of flipping the tractor over backward.

STOPPING THE TRACTOR



CAUTION

Always engage the brake pedal lock, push the PTO switch to the "OFF" position, lower the equipment and shut off the engine before dismounting. Never try to start the engine while standing on the ground.

Fully depress the brake pedal to bring the tractor to a complete stop (and disengage the cruise control), engage the brake pedal lock, disengage the PTO, turn the ignition switch to "OFF" and remove the key from the switch before dismounting.

OPERATING THE POWER TAKE-OFF (PTO) CLUTCH

Before operating the new clutch under load (mowing grass, etc.), perform the following break-in procedure:

1. Start and run the engine a few minutes to warm up.

2. With the mowing deck, snow thrower, etc. installed and the engine running at approximately 50% throttle, engage and disengage the clutch at ten second intervals (ten seconds ON-ten seconds OFF) five times. The engine choke may have to be pulled out slightly to accomplish this.
3. Increase the engine speed to 75% throttle and again engage and disengage the PTO clutch at ten second intervals five times.
4. Make certain the PTO is disengaged and stop the engine.

Operate the PTO clutch as follows:

1. Move the throttle control lever to approximately the mid throttle position.
2. Pull the PTO switch to the "RUN" position.
3. Advance the throttle lever to the operating speed (full engine speed).
4. The operator must remain in the tractor seat at all times. If the operator should leave the seat without turning off the power take-off switch, the tractor's engine will shut off.
5. The PTO clutch cannot be operated when the tractor is driving in the reverse direction. The PTO switch must in the "OFF" position when the reverse control pedal is depressed, or the PTO clutch will automatically disengage. To re-engage the PTO clutch, release the reverse control pedal, move the PTO switch to the "OFF" position, then again pull the switch to the "RUN" position.

DRAWBAR

Drawbar type equipment must be hitched to the tractor only at the hitch hole in the drawbar (See Figure 9).

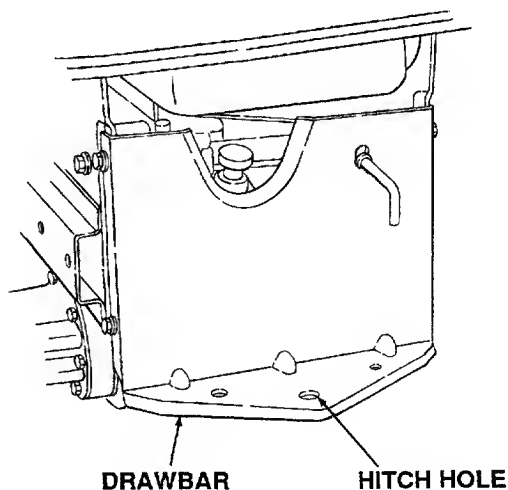


Figure 9

SECTION III. ADJUSTMENTS

This section contains adjustment information for the Model 2150 and 2155 tractors. Adjustment information for the 42-inch deck is located in Section V – Mower Deck beginning on page 34.

ADJUSTING THE SEAT



WARNING

Do not adjust the seat when the tractor is moving. Adjusting the seat while the tractor is moving could cause the operator to lose control of the tractor.

Before starting the tractor, adjust the seat forward or rearward to the most comfortable driving position. To reposition the seat, move the seat adjustment lever (see Figure 10) upward and slide the seat forward or rearward. Release the adjustment lever when the seat is comfortably positioned. Gently rock the seat forward and rearward once to be sure the seat is locked in place.

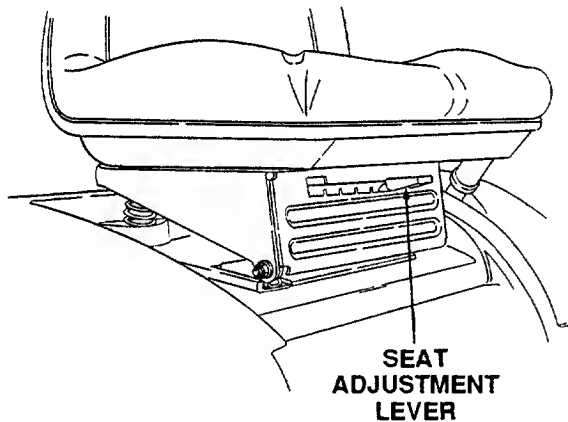


Figure 10

ADJUSTING THE BRAKES

During normal operation of this tractor, the brakes are subject to wear and will need periodic examination and adjustment.

To check the brake adjustment, position the tractor on a firm and level surface. Stop the tractor engine and remove the ignition key. On Model 2155, pull and lock the transmission release lever in the "TRANSMISSION RELEASED" position. Perform the following checks:

1. Engage the brake pedal lock. If the tractor can be pushed forward or rearward, the braking force must be increased.

2. Release the brake pedal lock. If the tractor cannot be pushed forward or rearward, the braking force must be decreased.

ADJUSTING THE BRAKE ROD

To increase or decrease the braking force, refer to Figure 11 and proceed as follows:

1. Place the tractor on a level surface with the brake pedal lock disengaged. Stop the tractor engine and remove the ignition key.
2. While working from the underside of the tractor, remove the hairpin cotter from the brake rod adjustment ferrule. Remove the ferrule from the brake cam.

3. To increase the braking force—
Turn the ferrule clockwise (inward) one full turn at a time until the ferrule can be inserted into the brake cam while applying a **minimal tension** on the spring.

To decrease the braking force—

Turn the ferrule counterclockwise (outward) one full turn at a time until the ferrule can be inserted into the brake cam while applying a **minimal tension** on the spring.

4. Turn the ferrule counterclockwise (outward) one full turn to release the slight spring tension, then insert the ferrule into the brake cam and secure with the hairpin cotter.

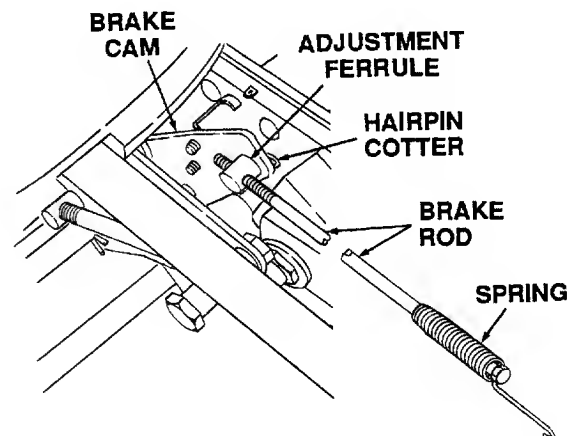


Figure 11

Recheck the brake adjustment to ensure proper brake operation before operating the tractor. If brake rod adjustment does not correct the problem, see your authorized *Cub Cadet* dealer.

WHEEL ALIGNMENT

The front wheels should toe-in approximately 1/8 to 1/4 inch, as measured across dimensions A and B shown in Figure 12.

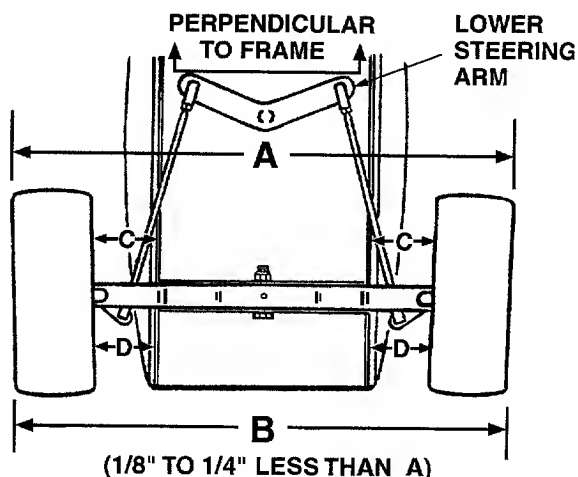


Figure 12. Viewed from beneath the tractor.

FRONT WHEEL ADJUSTMENT



WARNING

Place the tractor on a firm and level surface.

To adjust the toe-in, disconnect the front ball joints from the steering arms by removing the hex lock nuts (Refer to Figure 13) and proceed as follows:

1. Check the lower steering arm to ensure it is perpendicular to the tractor frame (See Figure 12).
2. Place a mark at the same spot on both front wheels; preferably the inner bead flange of the wheel rims.
3. Rotate the wheels to position the marks at the front *horizontal* diameter of the wheels, then measure the distance between the marks and the bottom edges of the tractor frame channels (See measurement D in Figure 12). These two measurements should be equal.
4. Rotate the marks to the rear *horizontal* diameter and measure the distance between the marks and the frame (See measurement C in Figure 12). Measurement D should be approximately 1/16 to 1/8 inch less than measurement C on each side of the tractor.
5. Manually move each wheel to achieve the required toe-in *and* equal D measurements.

6. Loosen the jam nuts from the ball joints (See Figure 13).

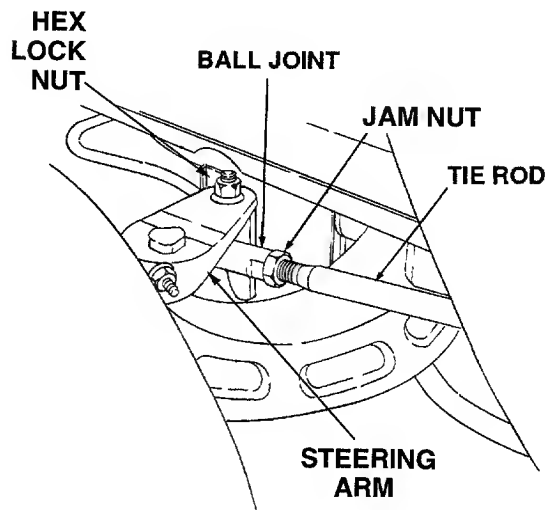


Figure 13

7. Making sure not to move the lower steering arm or either wheel, turn the ball joint in or out on each tie rod as necessary to align with the hole in each steering arm.
8. Reinstall the ball joints in the steering arms and secure with the hex lock nuts. Tighten the jam nuts against the ball joints.

PIVOT BAR ADJUSTMENT



CAUTION

The tractor should be checked every 50 hours of operation for play between the frame axle channel and the pivot axle.

Check and adjust the pivot axle as follows:

1. Raise the front of the tractor and set it on jack stands, so the front wheels are suspended above the ground.



CAUTION

For safety, block the rear wheels to prevent the tractor from rolling and tipping or sliding the jack stands.

2. Pivot the ends of the axle up and down to check for binding. If the axle is binding, loosen the lock nuts (See Figure 14) until binding is eliminated.

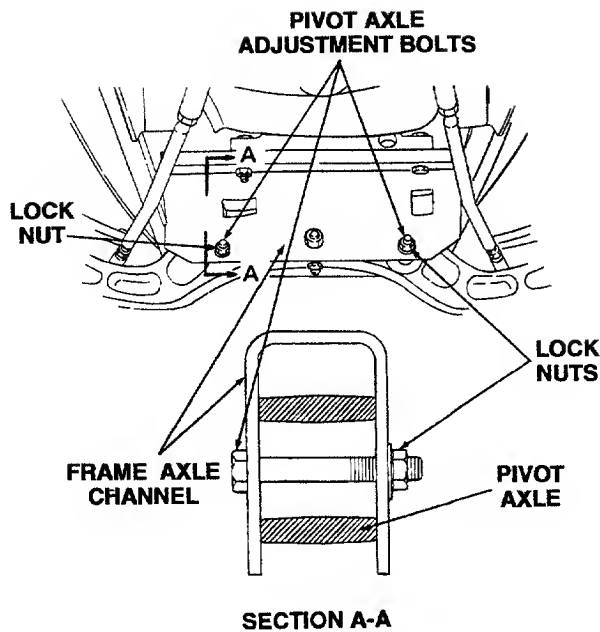


Figure 14

3. Grasping the ends of the pivot axle, attempt to move each end of the axle forward and rearward to check for side play between the axle and frame channel. If play is present, gradually tighten the lock nuts until play is minimized.
4. Repeat steps 2 and 3 until minimum play without binding is achieved.
5. Raise the front of the tractor, remove the jack stands, and lower the tractor to the ground. Remove the blocks from the rear wheels.

NEUTRAL ADJUSTMENT

The Models 2150 (gear drive) and 2155 (hydrostatic drive) use essentially the same transmission control linkage. The control linkage is adjusted at the factory and normally does not require any further adjustment. However, if the tractor creeps forward or rearward when neither the forward nor reverse pedals are depressed, the following inspection and adjustments will be necessary.

NOTE

Only the Model 2155 hydro transmission is pictured in Figure 15. However, the components referred to in the figure also apply for the Model 2150.

Checking the Transmission Neutral Setting

To check and adjust the transmission neutral setting, proceed as follows:

1. Drive the tractor for approximately 5-10 minutes to warm up the transmission, then stop the engine and engage the parking brake.



WARNING

Place the tractor on a firm and level surface and chock the front wheels before raising the rear wheels from the ground. Use jack stands to support the rear of the tractor when raised.

2. Raise the rear of the tractor, so that the rear tires are at least one inch above the surface, and set it on jack stands. Make certain the jack stands are positioned to balance the tractor and prevent tipping.



WARNING

The operator presence safety circuit will stop the engine if the seat is empty when the brake pedal is released. If an assistant is seated when adjusting the neutral setting, use extreme caution to prevent the tractor from tipping or rolling. Similar precautions should be taken with any other method of over-riding the safety circuit, such as placing a weight in the seat. Never operate the tractor with the safety circuit disabled.

3. Carefully start the tractor engine and release the parking brake. Observe both rear wheels for rotation in either direction.
4. If wheel rotation is observed, adjust the neutral setting as follows:
 - a. Disconnect the rear control rod from the control arm by removing the hairpin cotter from the pivot sleeve (Refer to Figure 15).
 - b. If wheel rotation stops when the rod is disconnected, check and readjust the control rod per the instructions below.
 - c. If wheel rotation continues, loosen the locknut securing the hex cap screw and centering spacer to the neutral bracket (See Figure 15).
 - d. If the rotation is in the *forward* direction, slide the centering spacer rearward until the wheels just begin to rotate in the *reverse* direction. Then slowly slide the spacer slightly forward until wheel rotation stops.

1. Front Control Rod
2. Rear Control Rod
3. Hex Tap Screw
4. Pivot Sleeve
5. Neutral Arm
6. Control Arm
7. Hex Cap Screw
8. Centering Spacer
9. Neutral Bracket
10. Hairpin Cotter
(Not Shown)

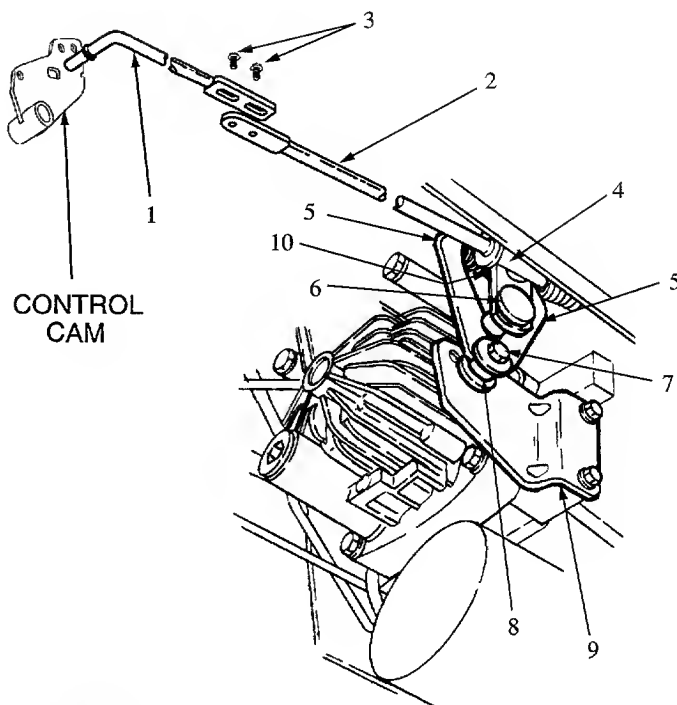


Figure 15. Model 2155 Shown.

- e. If the rotation is in the *reverse* direction, slowly slide the centering spacer slightly forward until rotation stops.
- f. Carefully tighten the hex cap screw and lock-nut, making certain the centering spacer does not move.
- g. Stop the engine and **engage the parking brake.**

4. Raise the rear of the tractor, remove the jack stands and lower the tractor.

ADJUSTING LIFT ASSIST SPRING TENSION

The effort required to operate the implement lift handle can be varied by loosening or tightening the lift assist spring adjusting bolt (See Figure 16). The bolt can be accessed from the rear of the tractor, inside the left rear wheel. Turning the adjusting bolt clockwise will decrease the manual effort required for lifting attachments; turning counterclockwise will increase the effort needed to lift the attachment.

Adjusting the Control Rod

Adjust the control rod (See Figure 15) as follows:



The brake pedal lock **MUST** be engaged to properly adjust the control rod.

1. Loosen, but do not remove, the hex tap screws that fasten the front and rear control rods together.
2. While making certain to not move the front control rod, control cam or control arm (See Figure 15), slide the rear control rod in the direction necessary to directly align the pivot sleeve pin with the appropriate hole (upper hole for 2150 - lower for 2155) of the control arm.
3. Insert the pivot sleeve pin into the control arm and secure with the hairpin cotter, then tighten the hex tap screws. Make sure to maintain the adjusted position of the control rods when tightening the screws.

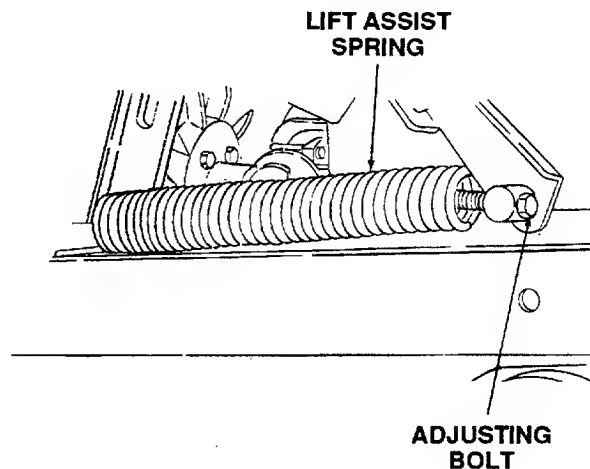


Figure 16

CARBURETOR ADJUSTMENTS



WARNING

When making adjustments to the carburetor while the engine is running, disengage the PTO clutch and engage the brake pedal lock. Keep clear of all moving parts and be careful of all hot surfaces.



WARNING

Carbon monoxide fumes can be fatal! Do not make any adjustments to the carburetor in a confined area such as a storage building. Move the tractor outside into the air.

The carburetor is adjusted at the factory and under normal operating conditions it will not require readjusting. The high idle is set at the factory and cannot be adjusted. If the engine does not operate properly and the problem appears to be fuel system related, check the following areas before adjusting the carburetor: Refer to **MAINTENANCE** section.

- Check for fuel in fuel tank
- Check fuel cap vent for blockage
- Check fuel line for pinched or obstructed areas
- Check for fuel filter blockage
- Check for a clogged air filter

If, however, the engine is hard-starting or runs roughly or stalls at low idle speed, it may be necessary to adjust or service the carburetor. Minor carburetor adjustment may also be needed to compensate for differences in fuel, temperature or altitude.

The air filter element and element cover must be assembled to the carburetor when running the engine.

Adjust the carburetor idle fuel mixture in the order stated as follows (Refer to Figure 17):



NOTE

Carburetor adjustments should be made only after the engine has warmed up.

1. Start the engine and run at half throttle for 5 to 10 minutes to warm up. The engine must be warm before making the final settings. Check that the throttle and choke plates can fully open.
2. **Idle Speed Setting:** Place the throttle control into the "idle" or "slow" position. Set the low idle speed to **1200 rpm** (± 75 rpm) by turning the low idle speed adjusting screw in or out. Check the speed using a tachometer (See Figure 17).

LOW IDLE SPEED
ADJUSTING SCREW

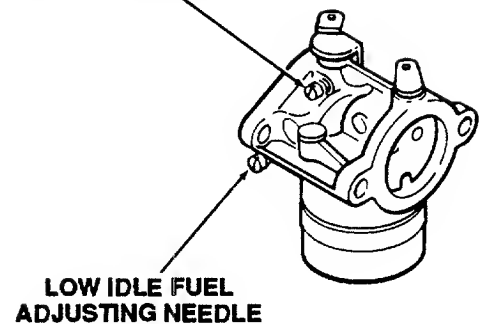


Figure 17



NOTE

The recommended low idle speed for basic engines is 1200 rpm. To ensure best results when setting the low idle fuel needle, the low idle speed must not exceed 1500 rpm.



CAUTION

The tip of the low idle fuel adjusting needle is tapered to critical dimensions. Damage to the needle and the seat in the carburetor body will result if the needle is forced.

3. **Low Idle Fuel Needle Setting:** Place the throttle into the "idle" or "slow" position. Turn the low idle fuel adjusting needle **out** (counterclockwise) **slowly** from the preliminary setting until the engine speed decreases (rich). Note the position of the needle. Now turn the adjusting needle **in** (the engine speed will initially increase) until the engine speed decreases (lean). Note the position of the needle. Set the adjusting needle midway between the rich and lean settings by backing out the needle approximately 1/8 to 1/4 turn (See Figure 18).

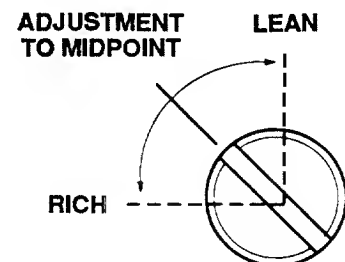


Figure 18

4. Recheck the idle speed using a tachometer. Readjust the speed to the tractor specification.

SECTION IV. MAINTENANCE

ENGINE OIL

The engine-crankcase is filled with ship-away oil. This oil may be used for the first 5 hours of engine operation at temperatures between 0° and 90°F. If temperatures are not within this range, drain the oil from the oil filter and crankcase and replace with new oil as specified in the **LUBRICATION TABLE**.

To aid starting, the selection of crankcase lubricating oils should be based on the lowest anticipated temperatures until the next scheduled oil change.

For oil change intervals of 100 hours, the following oils are recommended.

Ambient Temperature	Viscosity (Grade SG/SH)
+32°F and Above —	<i>Cub Cadet</i> Engine Oil S.A.E. 10W30 or S.A.E. 10W40
Below +32°F —	<i>Cub Cadet</i> Engine Oil S.A.E. 5W20 or S.A.E. 5W30*

*Synthetic Engine Oil S.A.E. 5W20 or S.A.E. 5W30 is acceptable.

Regularly check the oil level of the engine crankcase to see that it is filled to the correct level. Always keep the oil level between the "FULL" and the "LOW" marks on the dipstick. When checking the oil level, the engine must be cold, the dipstick must be withdrawn and wiped clean, then inserted all the way before being withdrawn for a true reading.

NOTE

Check the oil level only while the engine is stopped and the tractor is level.



CAUTION

The oil level should be checked every hour during the first 5 hours of operation.

NOTE

The engine oil level should be checked prior to every use.

CHECKING THE OIL LEVEL

Before each use, the oil level of the engine crankcase should be checked to see that it is filled to the correct level. Close monitoring of the oil level during the first 10 hours of operation of the engine is especially important. Before checking the oil level, clean the area around the oil level dipstick to prevent debris from entering the crankcase. Always keep the oil level between the "FULL" and the "LOW" marks on the dipstick (See Figure 19). When checking the oil level, the engine must be cold, the dipstick must be withdrawn and wiped clean, then inserted all the way before being withdrawn for a true reading.



NOTE

Check the oil level only while the engine is stopped and the tractor is level.



CAUTION

The oil level should be checked every hour during the first 5 hours of operation.



NOTE

The engine oil level should be checked prior to every use.

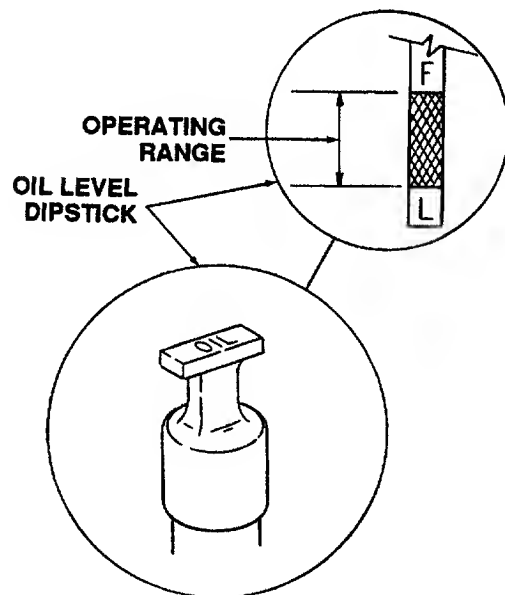


Figure 19

ADDING OIL



CAUTION

Never overfill the engine crankcase. The engine may overheat and/or damage may result if the crankcase is below the "LOW" mark or over the "FULL" mark on the dipstick.



NOTE

For best results, fill to the "FULL" mark on the dipstick as opposed to adding a given quantity of oil. Always check the level on the dipstick before adding more oil.

Refer to the **LUBRICATION TABLE** for information regarding the proper type of oil to add to the crankcase.

1. Place the tractor on a level surface and engage the brake pedal lock. Stop the tractor engine and remove the ignition key.
2. Clean the area around the oil fill tube, and the oil fill cap/dipstick to prevent debris from entering the crankcase.
3. Remove the oil fill cap/dipstick from the oil fill tube and SLOWLY pour oil into the oil fill tube. Fill the crankcase until the oil level reaches the "FULL" mark on the dipstick (Refer to Figure 19).
4. Reinstall the oil fill cap/dipstick securely into the oil fill tube.



CAUTION

The oil fill cap/dipstick **MUST BE INSTALLED SECURELY INTO THE TUBE AT ALL TIMES WHEN THE ENGINE IS OPERATING**. Severe engine damage could result from failure to do so.

DRAINING OIL AND REPLACING OIL FILTER



NOTE

The engine oil should be changed after the first 5 hours of operation. Then oil should be changed after every 100 hours of operation.



WARNING

If the tractor has recently been operated, the engine and surrounding areas may be hot. Use

caution not to burn yourself when removing the side panels, draining the oil from the crankcase, and changing the oil filter.



NOTE

The oil filter should be changed at every oil change interval. The filters can be obtained through your *Cub Cadet* dealer under part number KH-12-050-08.

Refer to the **MAINTENANCE CHART** and the **LUBRICATION TABLE** for information regarding the frequency of required oil changes and the quantity and type of oil needed.

The oil filter is located behind the left side panel and is mounted on the engine (See Figure 20).

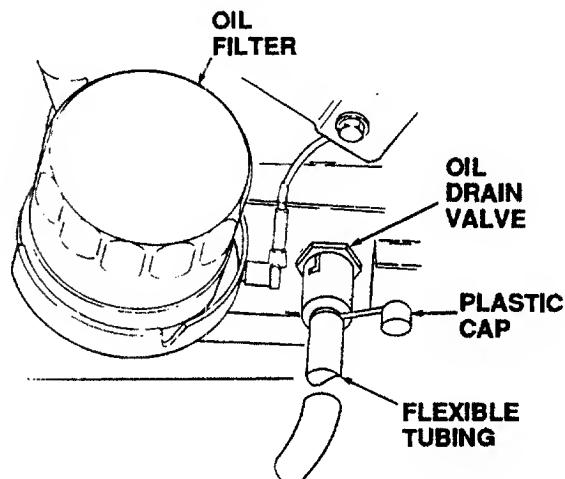


Figure 20

Run the engine for a few minutes to allow the oil in the crankcase to warm up. Warm oil will flow more freely and carry away more of the engine sediment which may have settled at the bottom of the crankcase. Use care to avoid burns from hot oil.

While the engine oil is warm, proceed as follows:



NOTE

A 12 inch length of flexible tubing is supplied in the owner's manual package and should be used to drain the engine oil.

1. Place the tractor on a level surface and engage the brake pedal lock. Stop the tractor engine and remove the ignition key.

2. Clean around the base of the oil filter, the oil fill cap/dipstick, and the oil fill tube to prevent debris from entering the crankcase.
3. Unseat the plastic dust cap from the engine oil drain valve. To prevent loss of the cap, do not remove the cap's retaining ring from the drain valve (Refer to Figure 20). Remove the dipstick.
4. Attach the flexible tubing (supplied in owner's manual package) to the drain valve. Place an appropriate container below the open end of the tubing to collect the old oil.
5. To open the drain valve, push it slightly inward and turn it counterclockwise until it stops, then pull it outward.
6. Remove the filter by turning it counterclockwise using an automotive type filter wrench to loosen.
7. Allow the old oil to completely drain from the engine crankcase into the container below. To close the drain valve, push it inward, turn clockwise until it stops and then release it.
8. Remove the flexible tubing from the drain valve. Clean the tubing and store in a safe place for future use.
9. Clean the drain valve and push the plastic dust cap onto the valve.
10. To assure a continuous flow of oil to all critical lubrication points within the engine, pour some new oil into the treaded center hole of the filter and allow time for the oil to be absorbed into the filter material.
11. Apply a light coating of clean oil on the gasket of the new oil filter. Thread the filter on by hand until the gasket contacts the oil filter adapter, then tighten the filter an additional 1/2 to 3/4 turn.

Refer to **FILLING THE CRANKCASE** and to the **LUBRICATION TABLE** and refill the crankcase with the quantity and type of oil specified.

FILLING THE CRANKCASE



CAUTION

Never overfill the engine crankcase. The engine may overheat and/or damage may result if the crankcase is below the "LOW" mark or over the "FULL" mark on the dipstick.



NOTE

For best results, fill to the "FULL" mark on the dipstick as opposed to adding a given quantity

of oil. Always check the level on the dipstick before adding more oil.

Refer to the **LUBRICATION TABLE** for information regarding the oil capacity and the proper type of oil to pour into the crankcase.

1. Place the tractor on a level surface and engage the brake pedal lock. Stop the tractor engine and remove the ignition key.
2. Clean the area around the oil fill tube and oil fill cap/dipstick to prevent debris from entering the crankcase.
3. Remove the oil fill cap/dipstick from the oil fill tube and SLOWLY pour oil into the fill tube. The oil capacity is approximately 4 pints. Fill the crankcase until the oil level reaches the "FULL" mark on the dipstick (Refer to Figure 19).
4. Reinstall the oil fill cap/dipstick securely into the oil fill tube



CAUTION

The oil fill cap/dipstick **MUST BE INSTALLED SECURELY INTO THE TUBE AT ALL TIMES WHEN THE ENGINE IS OPERATING**. Severe engine damage could result from failure to do so.

5. Start the tractor engine and allow it to run for 30 seconds, then stop the engine and remove the ignition key.
6. Check the oil level and add oil if necessary. **DO NOT OVERFILL THE ENGINE CRANKCASE.**
7. Check the oil filter and drain plug for leaks.

CHECKING TRANSMISSION OIL LEVEL



NOTE

Check the oil level only while the engine is stopped and the tractor is level.

Check the oil level of the transmission case before each use to see that it is filled to the correct level. Before checking the transmission oil level, clean the area around the oil fill plug/dipstick to prevent debris from entering the transmission case. Always keep the oil level between the "FULL" and the "ADD" marks on the dipstick (See Figure 21). When checking the oil level, the dipstick must be withdrawn and wiped clean, then inserted all the way before being withdrawn for a true reading.

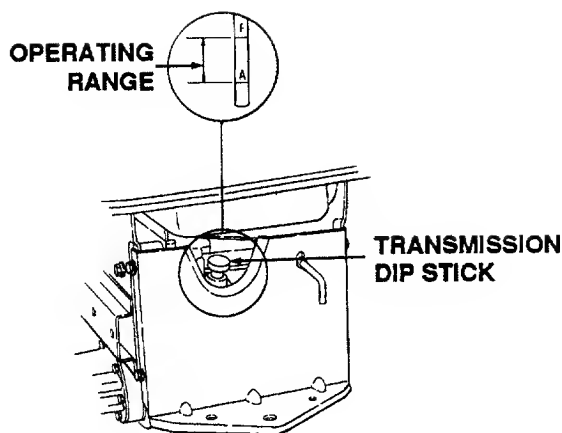


Figure 21

ADDING TRANSMISSION OIL



CAUTION

Never overfill the transmission case. Damage may result if the oil level in the transmission case is below the "ADD" mark or over the "FULL" mark of the dipstick.



NOTE

For best results, fill to the "FULL" mark on the dipstick as opposed to adding a given quantity of oil. Always check the level on the dipstick before adding more oil.

Refer to the **LUBRICATION TABLE** for information regarding the proper type of oil to add to the transmission case.

1. Place the tractor on a level surface and engage the brake pedal lock. Stop the tractor engine and remove the ignition key.
2. Clean the area around the oil fill plug/dipstick to prevent debris from entering the transmission case.
3. Remove the oil fill plug/dipstick from the oil fill port and SLOWLY pour oil into the oil fill port. Fill the transmission case until the oil level reaches the "FULL" mark on the dipstick (Refer to Figure 21).
4. Reinstall the oil fill plug/dipstick securely into the oil fill port.



CAUTION

The oil fill plug/dipstick **MUST BE INSTALLED SECURELY INTO THE FILL PORT AT ALL TIMES WHEN THE ENGINE IS OPERATING.**

HYDROSTATIC DRIVE OIL FILTER (MODEL 2155)



CAUTION

Never overfill the transmission case. Damage may result if the oil level in the transmission case is below the "ADD" mark or over the "FULL" mark of the dipstick.



NOTE

For best results, fill to the "FULL" mark on the dipstick as opposed to adding a given quantity of oil. Always check the level on the dipstick before adding more oil.

Refer to the **MAINTENANCE CHART** for information regarding the frequency of the hydrostatic transmission oil filter replacement. The filter can be obtained through your *Cub Cadet* dealer under the part number 723-3014.

Refer to the **LUBRICATION TABLE** for information regarding the oil capacity and the proper type of oil to pour into the transmission case.

1. Place the tractor on a level surface and engage the brake pedal lock. Stop the tractor engine and remove the ignition key.
2. Clean the area around the transmission drain plug to prevent debris from entering the transmission case. Remove the drain plug and allow the transmission oil to drain into a clean container having a capacity of more than 7 quarts. Reinstall the drain plug (Refer to Figure 22).

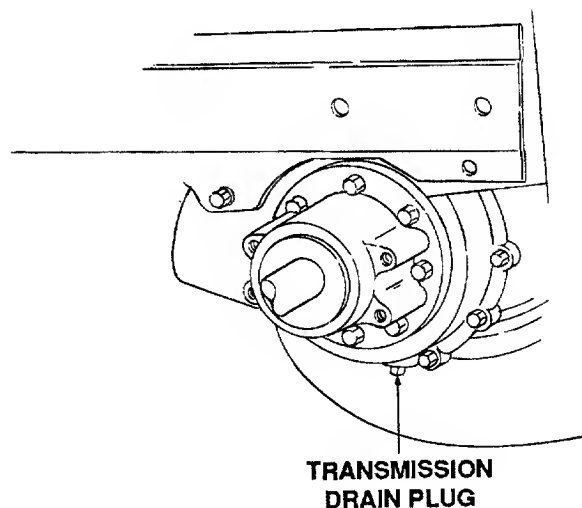


Figure 22



CAUTION

If the transmission oil is to be re-used, cover the container holding the drained oil to prevent contamination. Contaminated transmission oil can damage the hydro transmission.

3. Clean around the base of the transmission oil filter and remove the filter by turning it counterclockwise (Refer to Figure 23).
4. Apply a light coating of clean transmission oil to the gasket of the new filter. Install the filter by turning it clockwise, by hand, until the gasket contacts the filter base on the transmission housing; then tighten the filter an additional 1/2 turn.
5. Clean the area around the transmission oil fill plug/dipstick to prevent debris from entering the transmission case.
6. Remove the oil fill plug/dipstick from the oil fill port and SLOWLY pour oil into the oil fill port. Fill the transmission case until the oil level reaches the "FULL" mark on the dipstick (Refer to Figure 21).

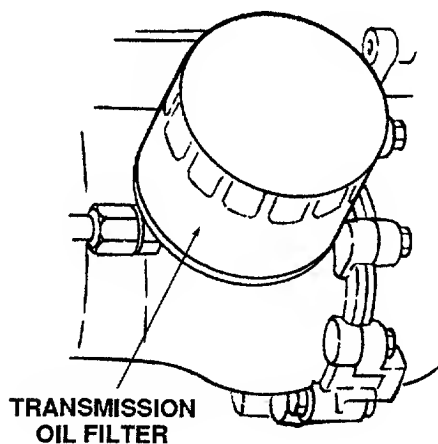


Figure 23

7. Reinstall the oil fill plug/dipstick securely into the oil fill port.
8. Start the engine and allow it to run for a few minutes. Shut the engine off, then check for leaks and re-check the oil level in the transmission case.



CAUTION

The oil fill plug/dipstick **MUST BE INSTALLED SECURELY INTO THE FILL PORT AT ALL TIMES WHEN THE ENGINE IS OPERATING.**

AIR CLEANER

Check the air cleaner daily or before starting the engine. Check for loose or damaged components and check the condition of the filter element. Remove any buildup of dirt and debris in the air cleaner housing.



NOTE

Operating the engine with loose or damaged air cleaner components will allow unfiltered air into the carburetor; causing extensive wear and eventual failure of the engine.

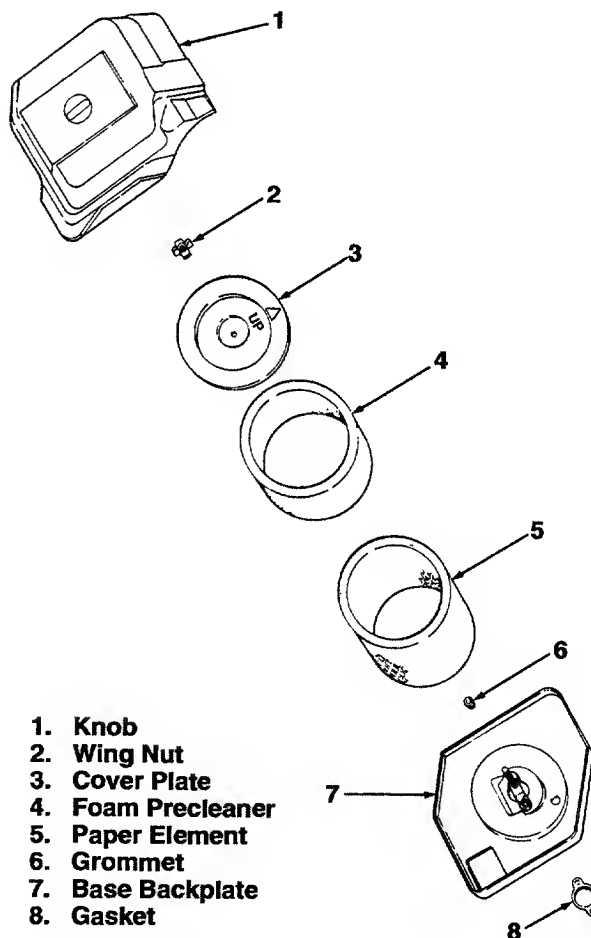


Figure 24. Air Cleaner Assembly.

Servicing the Precleaner

Wash and re-oil the foam precleaner at 1 month intervals or after every 10 hours of operation (more often under extremely dusty or dirty conditions), whichever occurs first.

1. Unfasten the air cleaner cover retaining knob and remove the air cleaner cover (See Figure 24).
2. Remove the foam precleaner by sliding it up off the paper element (See Figure 24).
3. Wash the precleaner in warm water with detergent. Rinse the precleaner thoroughly until all traces of the detergent are eliminated. Squeeze out (do not wring) excess water in a dry cloth. Allow the precleaner to air dry.
4. Saturate the foam precleaner with new engine oil. Squeeze out all excess oil.
5. Reinstall the foam precleaner over the paper element.
6. Reinstall the air cleaner cover and secure with the retaining knob.

Servicing the Paper Element

Every 100 hours of operation (more often under extremely dusty or dirty conditions), inspect the paper element. Replace the element as necessary.

1. Unfasten the air cleaner cover retaining knob and remove the air cleaner cover (See Figure 24).
2. Remove the foam precleaner by sliding it up off the paper element (See Figure 24).



CAUTION

The air cleaner element cover plate (See Figure 24) must be correctly installed to properly seal against the paper element gasket. Note the position of the "UP" arrow on the cover plate before removing.

3. Remove the wing nut and element cover plate, then lift out the paper air filter element.
4. Do not wash the paper element or use pressurized air, as this will damage the element. Replace a dirty, bent or damaged element. Handle new elements carefully; do not use if the sealing surfaces are bent or damaged.
5. When servicing the air cleaner, check the air cleaner base. Make sure it is secured and not

bent or damaged. Also check the element cover for damage or improper fit. Replace all damaged air cleaner components.

6. Inspect the rubber grommet (See Figure 24) for deterioration, cracks, and for a snug fit on the air cleaner stud. Replace if damaged or worn.
7. Install the rubber grommet onto the air cleaner stud, and position the paper element on the base.



CAUTION

The air cleaner element cover plate (See Figure 24) must be correctly installed to properly seal against the gasket of the paper element. The flange on the underside of the cover plate should mate with the collector plate on the air cleaner base.

8. Install the cover plate with the "UP" arrow pointing toward the 12 o'clock position and secure with the wing nut. Do not force the cover plate.
9. Reinstall the air cleaner cover. Make certain the cover retaining knob is tightened securely.

Properly cleaned and installed air cleaner elements significantly contribute to prolonging engine life.

CLEANING ENGINE

This tractor has an air-cooled engine. Air must be able to circulate freely around the engine through the fly-wheel screen, through the cooling shrouds and over the fins of the cylinder head and cylinder block. Keep these areas free of accumulated dirt and debris or the engine will overheat; possibly causing extensive engine damage. Regularly clean the inside of the side panels, dash intake screen and grille to ensure adequate cooling. If debris has accumulated inside the cooling shrouds, the blower housing and cooling shrouds should be removed and the cooling fins cleaned.



NOTE

This machine is designed to cool properly with the side panels in place. Operating without the panels could cause premature accumulation of dirt and debris on the engine, resulting in inadequate cooling.

SPARK PLUG



WARNING

To avoid possible injury, be sure the engine is off and has cooled before making any adjustments or repairs.



NOTE

Remove all dirt from around the spark plug before removing.

To remove the spark plugs, always use a spark plug wrench. Check the gap after every 100 hours of operation.

Replace a defective plug with a new plug. Set the spark plug gap at .040 inch (See Figure 25). Tighten the plug to 28-32 ft-lbs. See your authorized dealer for the correct replacement plug.

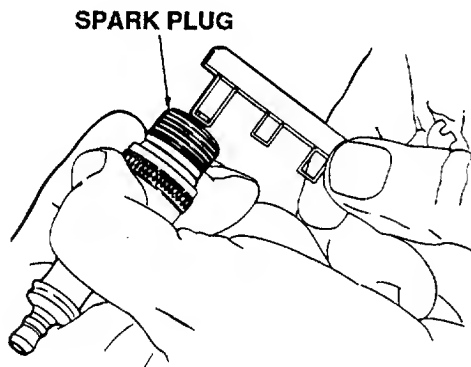


Figure 25

FUEL FILTER



WARNING

Do not replace the fuel filter when engine is hot.

The engine is equipped with an inline fuel filter. Visually inspect the filter periodically for a build-up of residue inside the filter body, and for a dirty element which can be indicated by discoloration. Replace the fuel filter when dirty.

HEADLIGHTS

Refer to **SPECIFICATIONS** when replacement of head lamp bulbs is necessary.



WARNING

Allow the engine and surrounding surfaces to cool before changing the head lamp bulbs.



CAUTION

Do not touch the glass portion of the head lamp bulb. Touching the glass portion will reduce the life of the bulb.

Referring to Figure 26, replace the head lamp bulb as follows:

1. Rotate the bulb assembly 1/4 turn counterclockwise to remove from the reflector housing
2. Spread the locking clips of the harness socket and pull the bulb assembly from the socket.
3. Without touching the glass surface, plug the new bulb assembly into the harness socket, making sure the harness clips lock onto the tabs on the sides of the bulb assembly.
4. Align the tabs on the face of the bulb assembly with the notches in the reflector housing, then push the bulb assembly into the housing and rotate 1/4 turn clockwise to lock in place

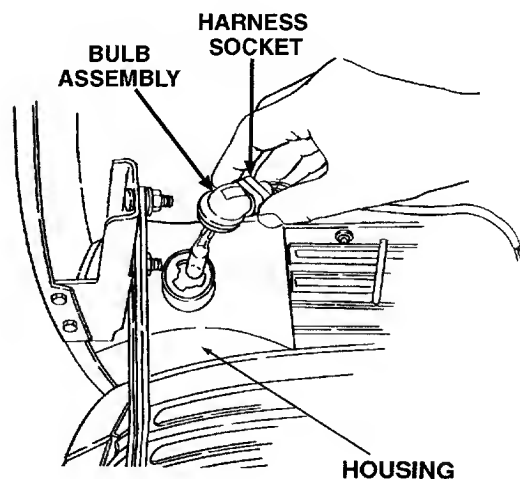


Figure 26

FUSES

Always use the same capacity fuse for replacement. Refer to **SPECIFICATIONS**. If the electrical system does not function, check the fuses.

To replace a fuse, pull the old fuse from the fuse holder and install the new fuse.

BATTERY INFORMATION



WARNING

- A. Battery acid must be handled with great care, as contact with it can burn and blister the skin. It is advisable to wear protective clothing (goggles, rubber gloves and apron) when working with acid.
- B. Should battery acid accidentally splatter into the eyes or onto the skin, rinse the affected area immediately with clean cold water. If there is any further discomfort, seek prompt medical attention.
- C. If acid spills on clothing, first dilute it with clean water, then neutralize with a solution of ammonia/water or baking soda/water.
- D. Since battery acid is corrosive, do not pour it into any sink or drain. Before discarding an empty electrolyte container, rinse it thoroughly with a neutralizing solution.
- E. NEVER connect (or disconnect) battery charger clips to the battery while the charger is turned on, as it can cause sparks.
- F. Keep all sources of ignition (cigarettes, matches, lighters) away from the battery. The hydrogen gas generated during charging can be combustible.
- G. As a further precaution, only charge the battery in a well ventilated area.

Always shield eyes and protect skin and clothing when working near batteries.



DANGER

BATTERIES CONTAIN SULFURIC ACID AND MAY EMIT EXPLOSIVE GASES. USE EXTREME CAUTION WHEN HANDLING BATTERIES.

KEEP BATTERIES OUT OF THE REACH OF CHILDREN.

MAINTENANCE OF BATTERY

- 1. Check the electrolyte level periodically (at least every two weeks). Keep the level to the split rings. Use only distilled water or a good quality drinking water. Never add acid or any other chemicals to the battery after initial activation.
- 2. The battery should be checked with a hydrometer after every 25 hours of operation. If the specific gravity of any cell is less than 1.235, the battery should be recharged. Maximum charge rate is 5 amps.
- 3. Spray the terminals and exposed wire with a battery terminal sealer, or coat the terminals with a thin coat of grease or petroleum jelly, to protect against corrosion.
- 4. The battery should be kept clean. Any deposits of acid should be neutralized with baking soda and water. Be careful not to get this solution in the cells.
- 5. Avoid tipping the battery. Even a "sealed" battery will leak electrolyte when tipped.

STORAGE OF THE BATTERY

- 1. When storing the tractor for extended periods, disconnect the battery cables. Removing the battery from the unit is recommended.
- 2. All batteries discharge during storage. Keep the exterior of the battery clean, especially the top. A dirty battery will discharge itself more rapidly.
- 3. Check the battery with a hydrometer. The battery must be stored with a full charge. A discharged battery will freeze at a higher temperature.

Specific Gravity	Freezing Point
1.265	-71°F
1.250	-62°F
1.200	-16°F
1.150	5°F
1.100	16°F

- 4. Recharge the battery whenever the specific gravity is less than 1.235; before returning to service; or every two months, whichever comes first.

COMMON CAUSES FOR BATTERY FAILURE

- 1. Overcharging
- 2. Undercharging
- 3. Lack of water
- 4. Loose and/or corroded connections
- 5. Excessive loads
- 6. Battery electrolyte substitutes
- 7. Freezing of electrolyte

*** These causes do not constitute warranty in the event of a battery failure.**

BATTERY REMOVAL OR INSTALLATION



WARNING

When removing the battery, disconnect the battery cables in the following order to avoid arcing and the resulting sparks:

Battery Removal:

1. Disconnect the Negative cable.
2. Disconnect the Positive cable.

Battery Installation:

1. Connect the Positive cable.
2. Connect the Negative cable.

To replace the battery, proceed as follows:

1. Remove the negative cable from the negative terminal of the battery, then remove the positive cable from the positive terminal.
2. Remove the wing nut securing the mounting rod to the bulkhead mounting bracket (Refer to Figure 27) and pull the rod downward from the bulkhead bracket.

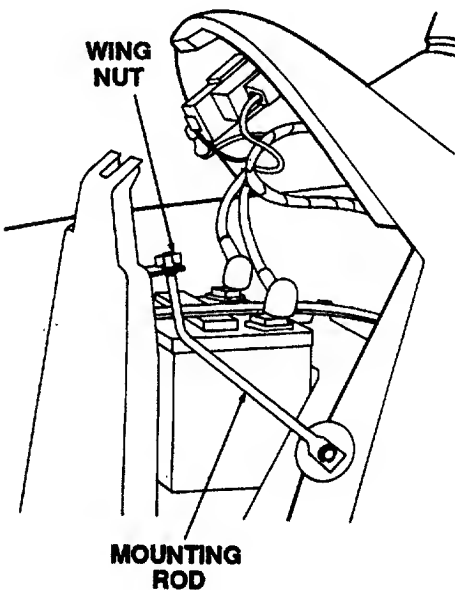


Figure 27

3. Rotate the mounting rod fully upward toward the dash panel to provide clearance for battery removal (See Figure 28).
4. Pull downward on the bottom of the battery holddown strap to release it from the tab beneath the battery tray.
5. Loosen the hose clamp and pull the drain tube from the battery.

6. Lift the battery upward and remove from the left side of the tractor.

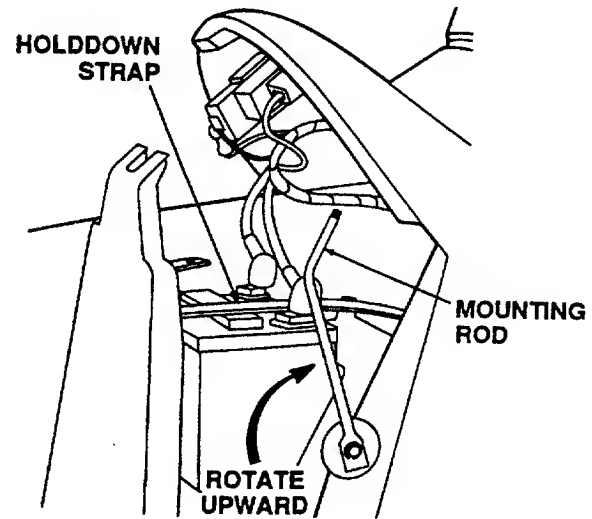


Figure 28

7. Install the new battery from the left side of the tractor and lower into the battery tray.
8. Install the drain tube onto the battery and secure with the hose clamp.
9. Stretch the battery holddown strap downward across the front of the battery and hook to the tab below the battery tray.
10. Rotate the mounting rod downward and insert through the bottom of the hole in the bulkhead mounting bracket (See Figure 27).
11. Install the wing nut onto the mounting rod, but do not tighten until after the side panels are installed.
12. Connect the positive cable to the positive terminal of the battery, then connect the negative cable to the negative terminal.

JUMP STARTING



WARNING

Failure to use this jump starting procedure could cause sparking, which could result in an explosion of either battery.

1. Attach the first jumper cable from the positive terminal of the good battery to the positive terminal of the dead battery.
2. Attach the second jumper cable from the negative terminal of the good battery to the FRAME OF THE UNIT WITH THE DEAD BATTERY.

TIRES

Keep the pneumatic tires properly inflated. Over-inflation will cause operator discomfort. Under-inflation will cause short tire life.

Improperly inflated tires will also affect the leveling of the mower deck and quality of cut.

Inflate the front and rear tires as shown in the following table:

Tire Size	Pounds per Square Inch
Front Tires	
15 x 6-6	14
Rear Tires	
20 x 9-8	10

Always ensure that the tire valve caps are in place and tightened securely to prevent loss of air and to protect the valve core and stem.

Do not overload the tractor tires by mounting equipment on the tractor which exceeds the load capacity of the size of the tires on the tractor.

MOUNTING TIRES ON THE RIM



WARNING

Do not mount a tire unless you have the proper equipment. Do not inflate the tire above the recommended pressure. Do not stand over the tire assembly when inflating. Accidental over inflation could cause an explosive separation of the tire and rim, which could result in serious injury or death.

After mounting a new or old tire on the rim, inflate it to 20 pounds (maximum) pressure to seat the tire bead on the rim flange. Then deflate the tire to the correct operating pressure.



NOTE

After the first 10 hours of operation, check and retorque the rear wheel lug nuts (both sides) to 35 ft-lbs to make sure they are seated in the rim and are properly tightened.

SECTION V. MOWER DECK

This section contains adjustment, removal and installation and maintenance information for the 42-inch mower deck.

A. DECK LEVELING ADJUSTMENTS

In order to achieve even cutting, the mower deck must be properly leveled. This leveling procedure will result in the left and right blades having corresponding front cutting-edge-to-ground measurements within 1/16 inch of each other. Also, the right and the left blades will each have a 1/8 to 1/4 inch downward tilt toward the front of the tractor. To level the mower deck, proceed as follows:



WARNING

Before making any adjustments, place the PTO switch in the "OFF" position, engage the brake pedal lock, turn the ignition key to the "OFF" position, remove the key from the switch and remove the spark plug wire to avoid accidental starting and injury.



WARNING

When adjusting the mower deck, be careful not to cut yourself on the sharp blades.



NOTE

If the mower deck is not level, the mower will not cut your lawn evenly.



NOTE

Check the tires for proper inflation before making a leveling adjustment. To level the deck, the tractor and deck **MUST** be placed on a hard, level surface during adjustment.

SIDE-TO-SIDE LEVELING ADJUSTMENT

1. Position the tractor and mower deck on a hard, level surface.
2. Open the tractor hood and disconnect the spark plug wire.
3. The mower deck rear gauge wheels must be set to their uppermost positions in the deck brackets, so the deck rests at its lowest position, relative to the hard, level surface below. Refer to **GAUGE WHEEL ADJUSTMENT**.
4. Raise the tractor implement lift handle to its highest setting.
5. Position the mower blades so that the ends of each blade face the right and left sides of the tractor (Refer to Figure 29).

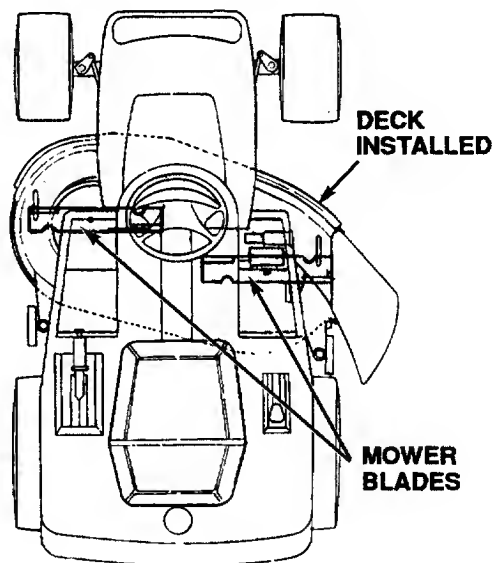
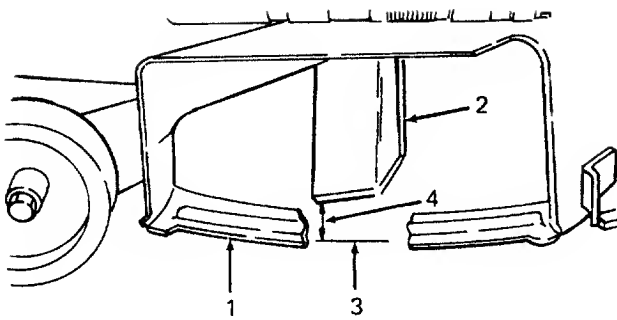


Figure 29

6. Refer to Figure 30 and measure and record the distance from the hard, level surface to the outermost cutting edge of the right blade. Repeat this step for the left blade. If the two blade heights are not within 1/16 inch, proceed to steps 7, 8 and 9. If the two blade heights are within 1/16 inch, proceed to **FRONT TO BACK LEVELING ADJUSTMENT**.



1. Deflector Shield
2. Blade
3. Hard Level Surface
4. Measure This Surface

Figure 30

7. Lower the deck onto the hard, level surface.
8. Side-to-side leveling is obtained utilizing the adjustment ferrule and left hand hanger bracket (Refer to Figure 31).

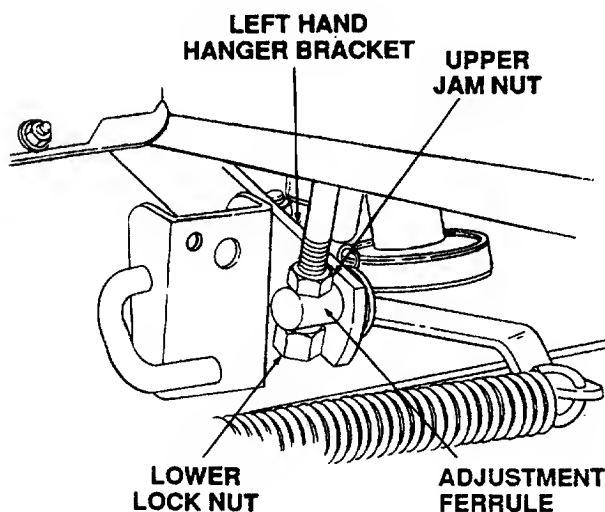


Figure 31

9. Loosen the upper jam nut on the hanger bracket. Turn the lower lock nut clockwise to raise the left side of the mower deck. Turn the lock nut counterclockwise to lower the left side of the mower deck (Refer to Figure 31).
10. Raise the lift handle to the highest position and recheck the blade measurements described in step 6. If the blade measurements are not within 1/16 inch, repeat steps 7, 8 and 9.
11. Tighten the upper jam nut after adjustment is completed.

FRONT TO BACK LEVELING ADJUSTMENT

1. Raise the deck to its highest position.
2. Position the mower blades so the ends of each blade point to the front and to the rear of the tractor (Refer to Figure 32).

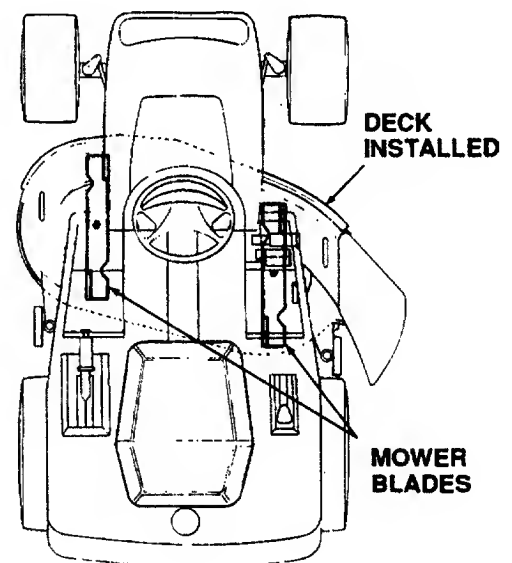


Figure 32

3. Initially adjust the front lift rod to allow 5/8 inch of thread to protrude above both lock nuts of the front lift rod bracket (Refer to Figure 33).

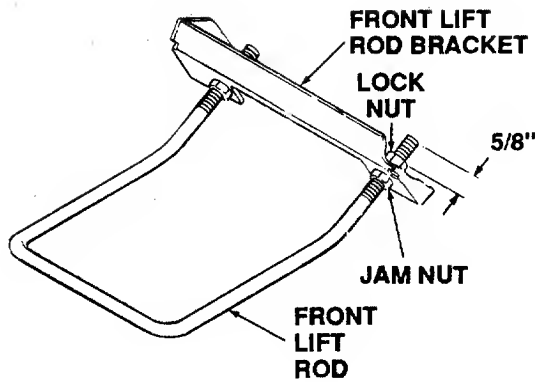


Figure 33

4. Refer to Figure 34. Measure and record the distance from the front cutting edge to the ground (measurement A), and from the rear cutting edge to the ground (measurement B), for each of the outside blades. The front edge of each blade (measurement A) should be lower than its back edge (measurement B) by 1/8 to 1/4 inch.
5. Lower the deck onto the hard, level surface.
6. To adjust the downward tilt of the blades, adjustment of the front lift rod is required. Refer to Figure 33 and proceed as follows:
7. Loosen the rear jam nuts on the front lift rod and turn the front lock nuts clockwise to raise the front of the mower deck, or counterclockwise to lower the front of the mower deck.
8. Raise the deck to the highest position. Recheck the blade measurements described in step 4. If the resultant measurements are not correct, repeat steps 5, 6 and 7 until the proper measurements are obtained.
9. Tighten the rear jam nuts after adjustment is completed.
10. Connect the spark plug wire.

GAUGE WHEEL ADJUSTMENT



WARNING

Before making any adjustments, place the PTO switch in the "OFF" position, engage the brake pedal lock, turn the ignition key to the "OFF" position, remove the key from the switch and remove the spark plug wire to avoid accidental starting and injury.



WARNING

When adjusting the mower deck, be careful not to cut yourself on the sharp blades.



NOTE

Gauge wheel adjustment should be performed only AFTER the mower deck has been properly leveled.



NOTE

Gauge wheels are intended to prevent scalping of the lawn, and are not meant to be used to set the cutting height.

In order to adjust the height of the rear gauge wheels, refer to Figure 35, and proceed as follows:

1. Raise the tractor implement lift handle to its highest setting to remove the weight from the gauge wheels.
2. Pull the quick-release pins from both deck gauge wheel brackets and deck axles.
3. Using the tractor implement handle, set the deck in the height position at which you wish to cut the grass this mowing.

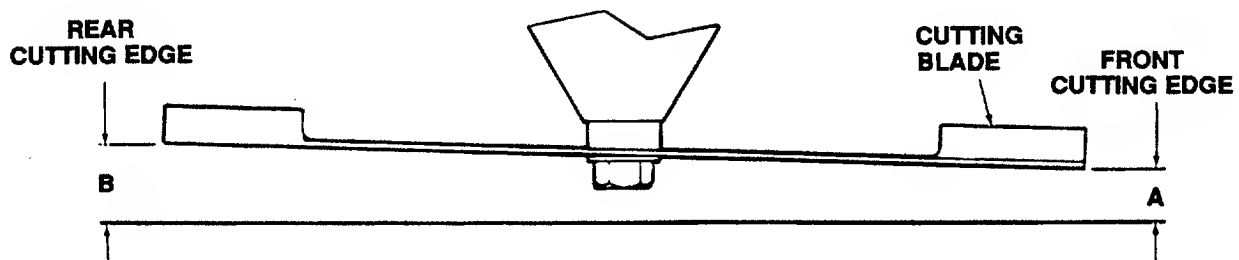


Figure 34

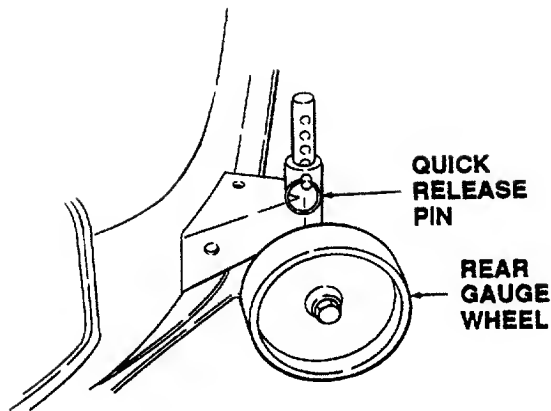


Figure 35

4. Working with either gauge wheel, raise the wheel and deck axle so that the wheel is just off the surface and an index hole in the deck axle aligns with the hole of the deck gauge wheel bracket.
5. Reinstall the the quick-release pin.
6. Repeat the above procedure for the remaining gauge wheel using the same relative adjustment hole location of the deck axle.

NOTE

Both rear gauge wheels must be installed in the same relative adjustment hole locations of both gauge wheel brackets.

CUTTING HEIGHT ADJUSTMENT

The mower can be set in multiple positions. Proceed as follows:

NOTE

Check the tires for proper inflation before making a height adjustment.

1. Pull the tractor implement lift handle up slightly and depress the button on the top of the lift handle.
2. Raise or lower the lift handle to obtain the desired mower deck cutting height.

3. Release the button when the desired mower position is obtained.

NOTE

To return the mower deck to a specific position, note the position of the lift lever indicator before raising or lowering the mower deck.

B. REMOVAL AND INSTALLATION OF DECK ASSEMBLY

REMOVAL OF DECK

WARNING

Before performing the mower deck removal, place the PTO switch in the "OFF" position, engage the brake pedal lock, turn the ignition key to the "OFF" position and remove the key from the switch.

WARNING

When handling the mower deck, be careful not to cut yourself on the sharp blades.

WARNING

The tractor and mower deck must be placed on a hard, level surface during removal.

1. Position the tractor and mower deck on a hard, level surface.
2. Open the tractor hood and disconnect the spark plug wire.
3. To ease sliding the deck out from under the tractor, the rear gauge wheels may be repositioned as shown in Figure 45. To reposition the gauge wheels, remove the quick-release pins and rotate each wheel inward 90 degrees. Reinstall the quick-release pins to secure both rear gauge wheels in their uppermost positions so the deck is in the lowest position possible relative to the ground.



WARNING

The deck idler arm lever is spring loaded. Release it slowly.

4. Lower the tractor implement lift handle to its lowest setting. Disengage the deck idler arm lever from its stop bracket and then release the spring tension until the lever is at the outside of the deck (Refer to Figure 36).

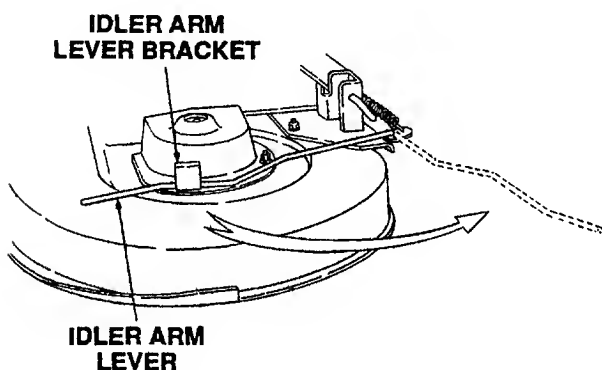


Figure 36

5. Remove the rearward end of the PTO belt from the upper pulley of the deck center double-pulley (Refer to Figure 37).

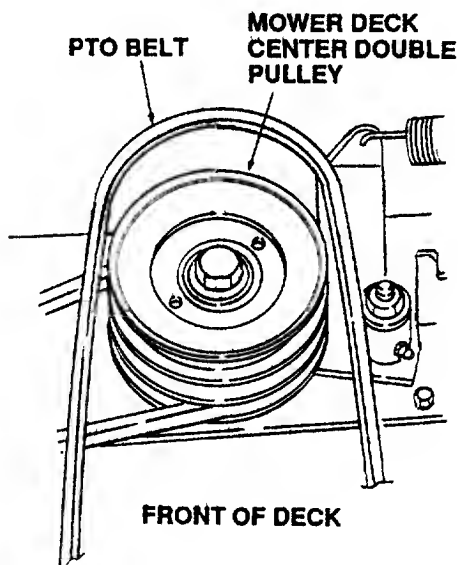


Figure 37

6. Engage the deck idler arm lever back into its stop bracket (Refer to Figure 38).

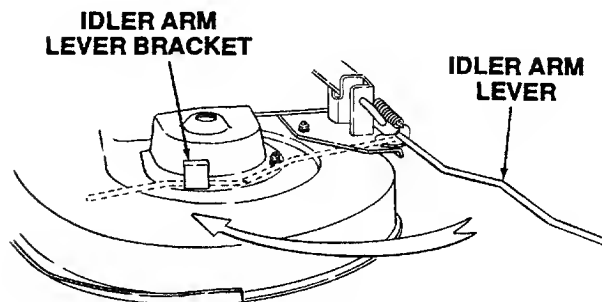


Figure 38



WARNING

The exhaust system is **HOT**. To avoid personal injury, allow the engine and exhaust system to cool before proceeding with the following PTO belt removal instructions.

7. Remove the forward end of the PTO belt from the engine PTO clutch pulley (Refer to Figure 39). Pass the PTO belt downward, inside the tractor frame, until the belt is below the two tractor front-lower pulleys (Refer to Figure 40).

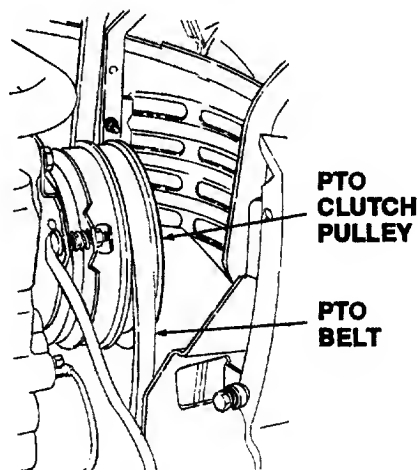


Figure 39

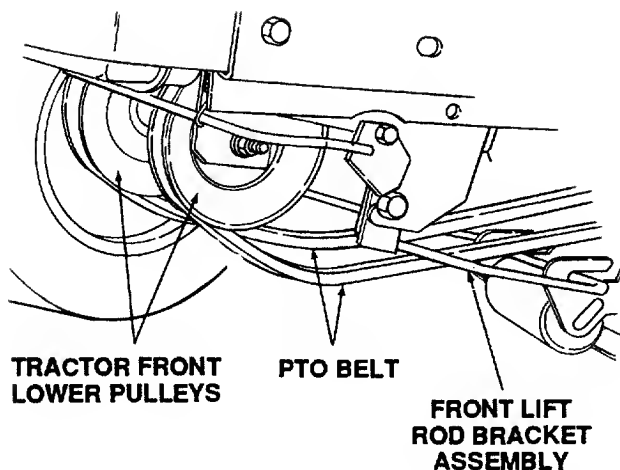


Figure 40

8. From the front of the tractor, pull the PTO belt clear of the tractor.
9. Pull the deck rear bracket pins outward, turn downward and release so both spring-loaded pins are held against the outside surface of the brackets in their disengaged positions (Refer to Figure 41).

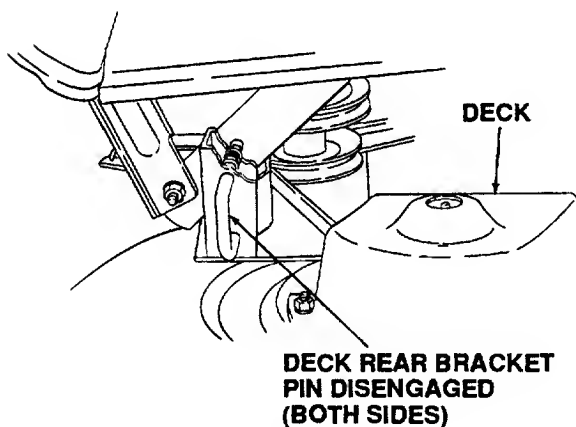


Figure 41

10. Raise the tractor implement lift handle to its highest setting. Slide the mower deck forward, so the front lift rod rests to the rear of, and free of, the front roller bracket slots of the deck (Refer to Figure 42).

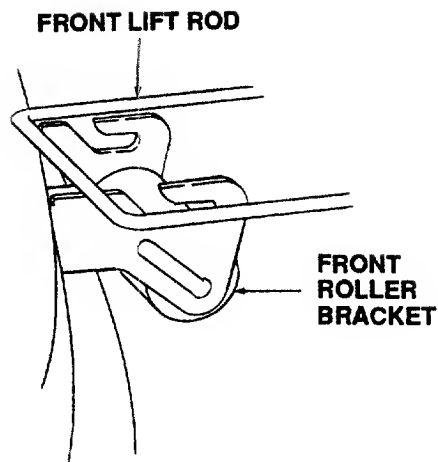


Figure 42

11. Hold the front lift rod upward and slide the mower deck rearward. Lower the front lift rod, so it rests to the front of, and free of, the front roller bracket slots of the deck (Refer to Figure 43).

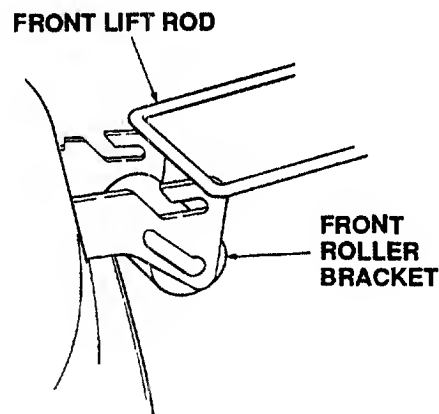


Figure 43

12. Referring to Figure 44, push downward and hold the tractor quick-attach rod. Slide the left and right shoulder bolts of the front lift rod bracket assembly forward, and free of, the left and right tractor latch receivers. Release the tractor quick-attach rod.

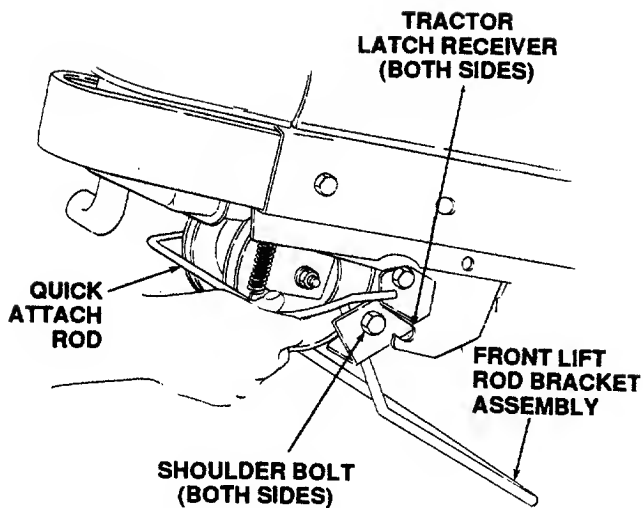


Figure 44



CAUTION

To avoid possible equipment damage, make sure that the tractor implement lift handle is raised to its highest setting before sliding the deck out from under the tractor.

13. With the tractor implement lift handle raised to its highest setting, slide the deck to the right and out from under the tractor (Refer to Figure 45).

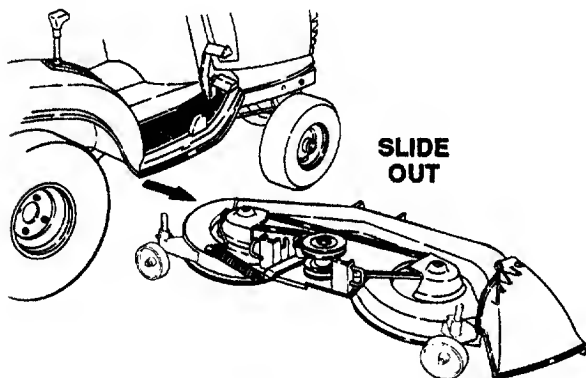


Figure 45

14. Connect the spark plug wire.

INSTALLATION OF DECK



WARNING

Before performing the mower deck installation, place the PTO switch in the "OFF" position, engage the brake pedal lock, turn the ignition key to the "OFF" position and remove the key from the switch.



WARNING

When handling the mower deck, be careful not to cut yourself on the sharp blades.



WARNING

The tractor and mower deck must be placed on a hard, level surface during installation.

1. Position the tractor and mower deck on a hard, level surface.
2. Open the tractor hood and disconnect the spark plug wire.
3. Refer to Figure 46 and position the deck on the right side of the tractor with the front of the deck facing toward the front of the tractor. Raise the tractor implement lift handle to its highest setting and slide the deck under the tractor.

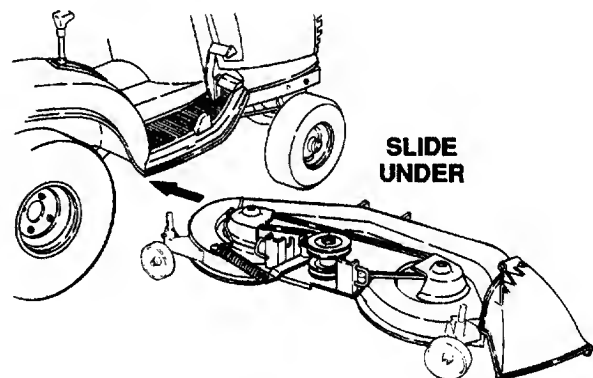


Figure 46

4. To ease sliding the deck out from under the tractor, the rear gauge wheels may be repositioned as shown in Figure 46. To reposition the gauge

wheels, remove the quick-release pins and rotate each wheel inward 90 degrees. Reinstall the quick-release pins to secure both rear gauge wheels in their uppermost positions so the deck is in the lowest position possible relative to the ground.



CAUTION

To avoid possible equipment damage, make sure that the tractor implement lift handle is raised to its highest setting before sliding the deck under the tractor.

5. Make sure both rear bracket slots of the deck align with both implement lift links of the tractor (Refer to Figure 47).

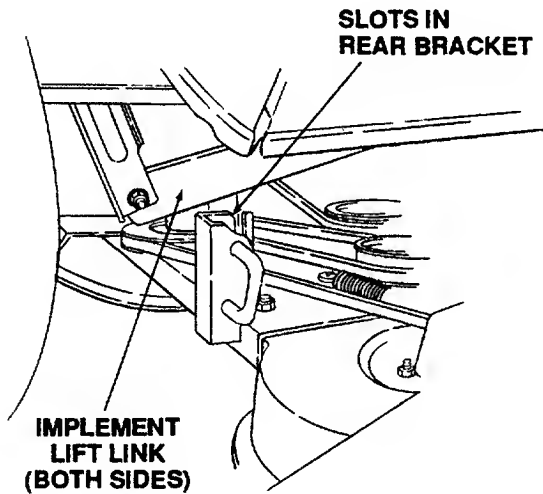


Figure 47

6. Reposition both rear gauge wheels in their normal operating position and secure with the quick-release pins.
7. Refer to Figure 48 to determine the proper positioning of the front lift rod bracket assembly. Push downward and hold the tractor quick-attach rod. Slide the left and right shoulder bolts of the

front lift rod bracket assembly rearward into the left and right tractor latch receivers. Release the tractor quick-attach rod so it is held against the tractor frame by the spring, thereby securing the front rod bracket assembly in the tractor latch receivers (Refer to Figure 49).

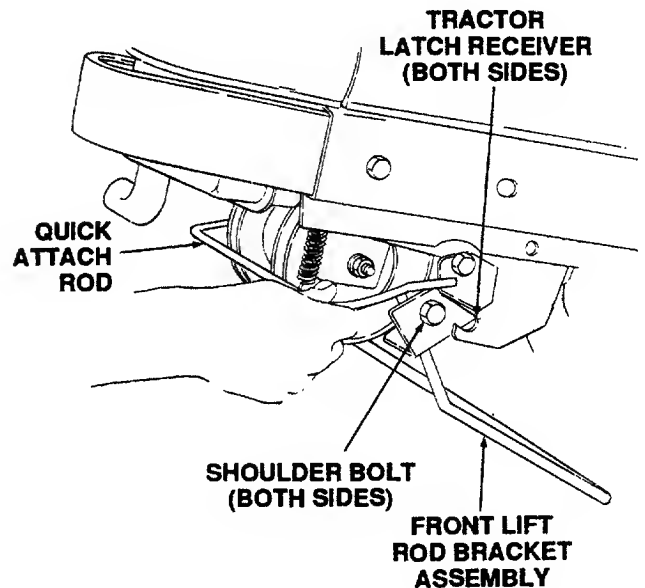


Figure 48

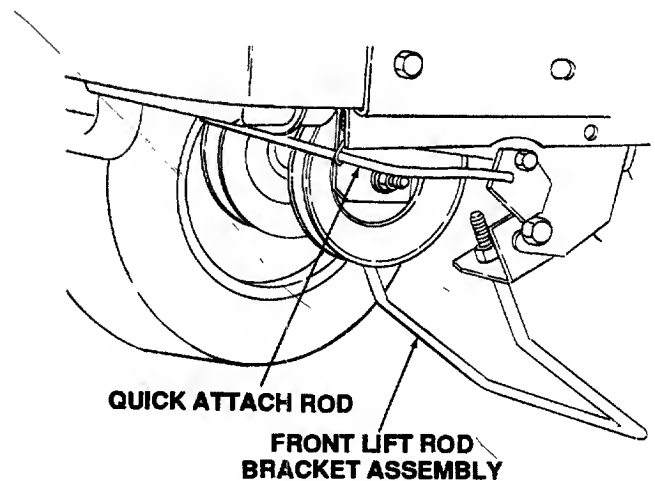


Figure 49

8. Hold the front lift rod upward and slide the mower deck forward. Lower the front lift rod so it rests to the rear of the front roller bracket slots of the deck (Refer to Figure 50). Slide the deck rearward in order to engage the front lift rod fully forward in the slots of the deck front roller bracket (Refer to Figure 51).

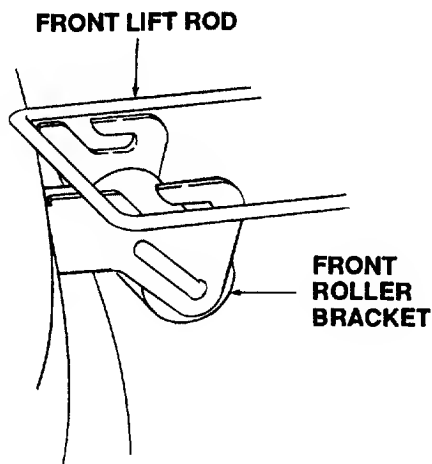


Figure 50

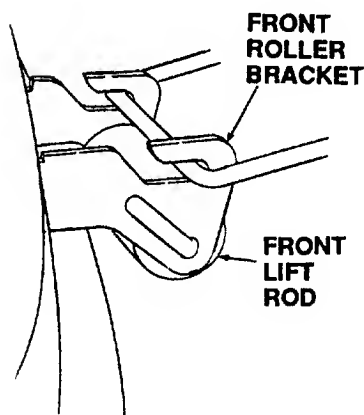


Figure 51

9. If not previously accomplished, pull the deck rear bracket pins outward, turn downward and release so both spring-loaded pins are held against the outside surface of the brackets in their disengaged positions (Refer to Figure 52).
10. Carefully engage the tractor implement lift links (left and right) into the deck rear bracket slots (left and right) as the tractor implement lift handle is lowered to its lowest setting (Refer to Figure 53).

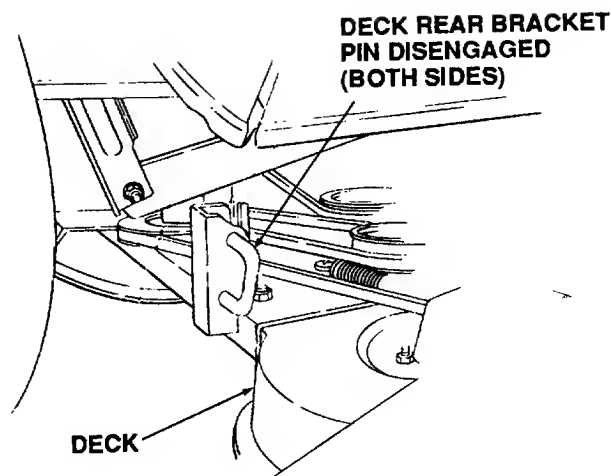


Figure 52

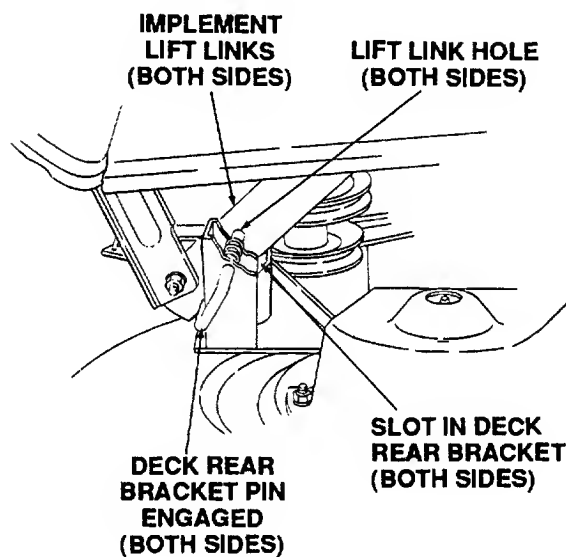


Figure 53

11. Pull the deck rear bracket pins outward, turn upward so the open ends of the pins are outside the brackets and release. Adjust each pin until it passes through the hole on the inside of the bracket and the hole in the lift link (Refer to Figure 53).

NOTE

In order to facilitate the full engagement of each pin through the hole of each lift link, lift the side of the deck slightly. While slightly raising or lowering the deck, move the lift link into position until the pin passes through the hole in the link.



WARNING

The deck idler arm lever is spring loaded. Release it slowly.

12. Disengage the deck idler arm lever from its stop bracket and release the spring tension until the lever is at the outside of the deck (Refer to Figure 54).

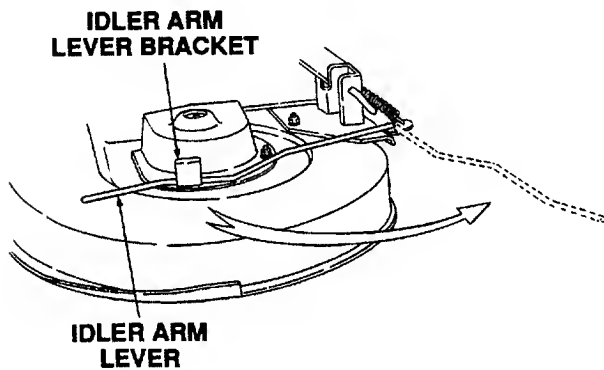


Figure 54



WARNING

The exhaust system is **HOT**. To avoid personal injury, allow the engine and exhaust system to cool before proceeding with the following PTO belt installation instructions.

13. Install the forward end of the PTO belt on the engine PTO clutch pulley by passing the belt upward inside the tractor frame. Ensure that the narrow side of the PTO belt engages the groove of the pulley (Refer to Figure 55).
14. Twist the PTO belt 1/4 turn to engage the narrow sides of the belt into the grooves of the two tractor front-lower pulleys (Refer to Figure 56).
15. From the front of the tractor, push the PTO belt through the front lift rod, then to the center of the deck. Ensure that the forward end of the belt remains positioned inside the front lower pulleys.
16. Install the rearward end of the PTO belt on the upper pulley of the deck center double-pulley (Refer to Figure 57). Ensure that the narrow side of the belt engages the groove of the upper pulley.

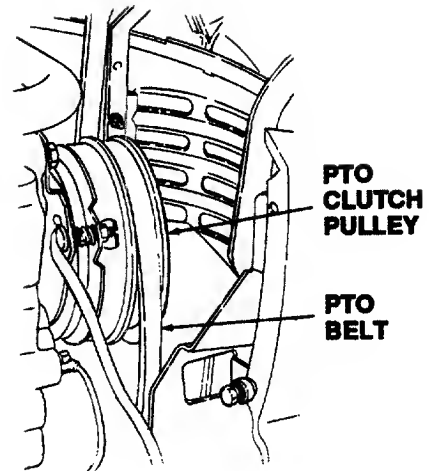


Figure 55

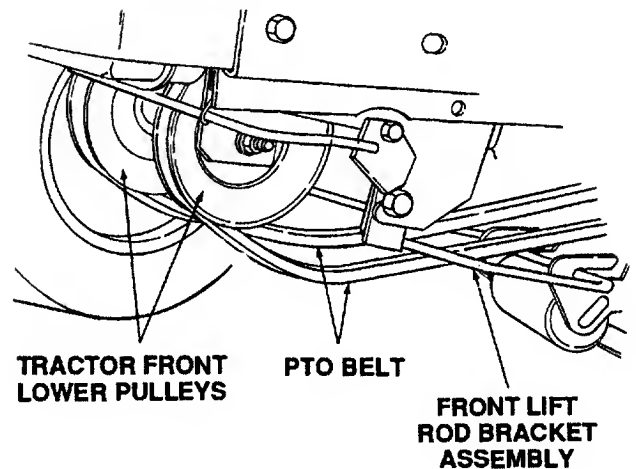


Figure 56

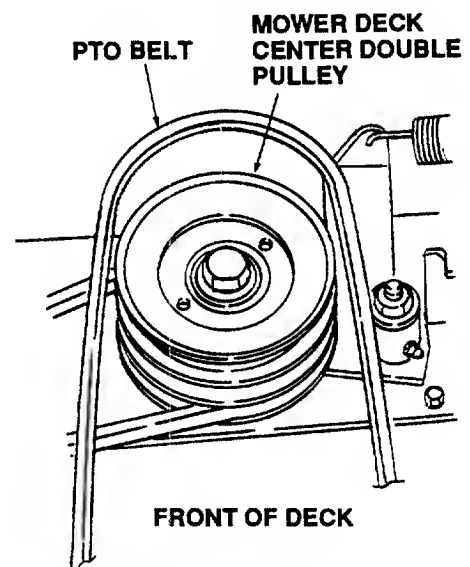


Figure 57

17. Engage the deck idler arm lever into its stop bracket to provide tension on the PTO belt (Refer to Figure 58).

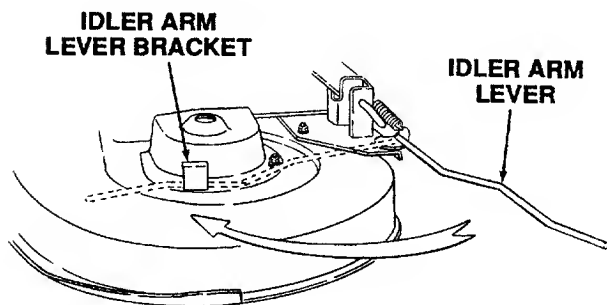


Figure 58

18. Connect the spark plug wire.

C. MAINTENANCE

CLEANING AND BLADE CARE



WARNING

Before performing any maintenance, place the PTO switch in the "OFF" position, engage the brake pedal lock, turn the ignition key to the "OFF" position and remove the key from the switch to avoid accidental starting and injury.



WARNING

Be careful not to cut yourself when sharpening the mower blades or cleaning the underside of the mower deck.

Clean the underside of the mower deck at the end of the mowing season and when buildup of cut material on the underside is noticed. Also remove the belt cover and remove any accumulated grass clippings.

The cutting blades must be kept sharp at all times.



NOTE

Sharpen the ends of the blade evenly so that the blades remain balanced and the same angle of sharpness is maintained. However, if the cutting edge of a blade has been sharpened to within 3/8 inch of the wind wing, it is recommended that new blades be installed. New blades are available at your authorized dealer.

When removing the blades, use a 1-1/4 inch wrench to hold the hex shaped pulley hub to prevent the blade spindle from turning when loosening the hex nut holding the blade. A block of wood may be placed between the deck housing and the cutting edge of the blade to assist in removal of the hex nut securing the blade (Refer to Figure 59).

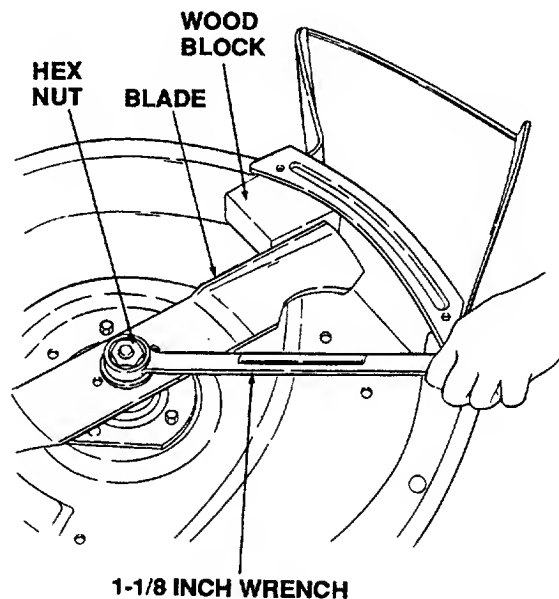


Figure 59

After replacing the blades, apply grease the exposed threads at the bottom of the blade shaft to prevent rust buildup.

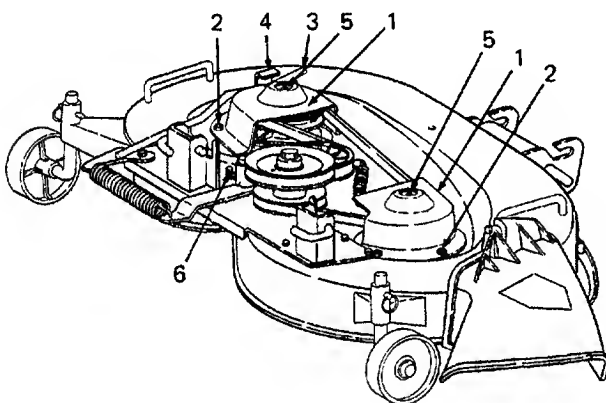
When replacing the blades, be sure they are assembled so that the cutting edges are forward in relation to the direction of rotation with the wind wings pointed upward. Tighten the nuts to 90 to 110 ft-lbs. (122 to 149 N·m).

NOTE

If the spindle pulley nuts are removed for any reason, they should be retightened to 50 to 60 ft-lbs. (68 to 81 N·m) torque when reinstalled.

LUBRICATION

After every 50 hours of operation and/or before putting the deck into winter storage, lubricate the spindle assemblies and the spindle belt idler arm using 251H EP grease or an equivalent No. 2 multipurpose lithium grease. The excess grease will be expelled from the top spindle seal. Since the spindle pulley covers the top spindle seal, the expelled grease cannot be seen. When the spindle is fully greased, the expelled grease will cause the top spindle seal to give off a muffled crackling noise (Refer to Figure 60).



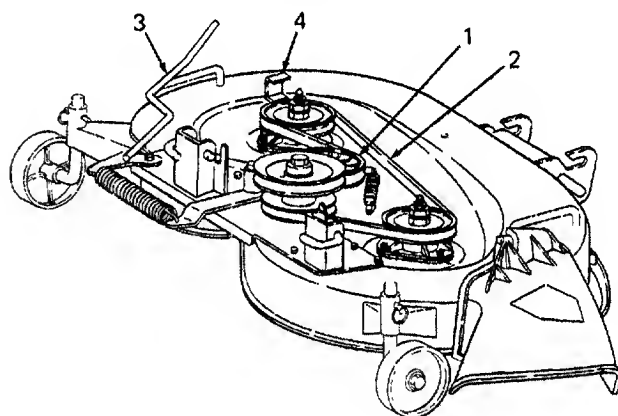
- | | |
|-----------------------|-------------------------------------|
| 1. Spindle Belt Cover | 5. Spindle Assembly Grease Fittings |
| 2. Nuts and Washers | 6. Idler Arm Grease Fitting |
| 3. Idler Arm Lever | |
| 4. Stop Bracket | |

Figure 60

SPINDLE DRIVE BELT REPLACEMENT

In order to replace the spindle drive belt, refer to Figures 60 and 61 and proceed as follows:

1. Remove the hardware that secures the spindle belt covers to the deck.
2. Remove the spindle belt covers to expose the belt.
3. Disengage the idler arm lever from its stop bracket and rotate the lever to the outside of the deck to release the spring tension.
4. Pull the flat idler pulley away from the backside of the belt and remove the old drive belt.
5. Install a new belt on the spindle pulleys and position the flat idler pulley against the backside of the belt so that the belt is tensioned. Refer to Figure 61 for the proper routing of the belt.
6. Reinstall the spindle belt covers.
7. Engage the idler arm lever into its stop bracket.



- | | |
|-----------------------|--------------------|
| 1. Idler Pulley | 3. Idler Arm Lever |
| 2. Spindle Drive Belt | 4. Stop Bracket |

Figure 61

SECTION VI. OFF-SEASON STORAGE

If the machine is to be inoperative for a period longer than 30 days, the following procedures are recommended:



WARNING

Never store the tractor with fuel in the tank indoors or in poorly ventilated enclosures, where fuel fumes may reach an open flame, spark or pilot light as on a furnace, water heater, clothes dryer, etc.



CAUTION

Fuel left in the fuel tank during warm weather deteriorates and will cause serious starting problems.

1. To prevent gum deposits from forming inside the engine's carburetor and causing possible malfunction of the engine, remove all gasoline from the fuel tank as follows:



WARNING

Do not drain fuel when the engine is hot. Allow the engine adequate time to cool.

Drain fuel into an approved container outdoors, away from open flame.

- a. Drain any large volume of fuel from the tank by disconnecting the fuel line from the in-line fuel filter near the engine.
 - b. Reconnect the fuel line and run the engine until it starts to falter, then use the choke to keep the engine running until all fuel in the carburetor has been exhausted.
 - c. Again disconnect the fuel line and drain any remaining gasoline from the system.
2. Remove the spark plugs and pour one (1) ounce of engine oil through the spark plug holes into the cylinders. Crank the engine several times to distribute the oil. Replace the spark plugs.
 3. Clean the engine and the entire tractor thoroughly.
 4. Lubricate all lubrication points.
 5. Follow the battery storage instructions on page 31.
 6. Protect the tires and seat from sunlight. Regularly check the tires to maintain proper inflation.

SECTION VII. MOWING

MOWING



WARNING

To avoid possible injury, do not allow anyone in the area opposite the discharge chute while mowing. Although the area has been supposedly cleared of foreign objects, small objects may be picked up and discharged by the mower.



WARNING

Never direct the discharge of material toward bystanders or allow anyone near the machine while in operation.

For best results it is recommended that the first two laps should be cut with the discharge thrown towards the center. After the first two laps, reverse the direction to throw the discharge to the outside for the balance of cutting. This will give a better appearance to the lawn.

Do not cut the grass too short, as the mower will tend to scalp the grass. Short grass invites weed growth and yellows quickly in dry weather.

Mowing should be done with the engine at full throttle. Do not mow at high ground speed.

During certain times of the year and under some conditions, the mower may leave streaks of uncut grass.

Streaking may occur when attempting to mow heavy weeds and tall grass. Under these conditions it may be necessary to go back over the cut area a second time to get a clean cut.

The following practices will help eliminate streaking:

1. Mow the area more often so the grass doesn't get too tall and heavy.
2. Operate the tractor at full throttle and slower forward speeds.
3. Keep the blades sharp and replace the blades when worn.
4. Follow the mowing pattern shown in Figure 62.

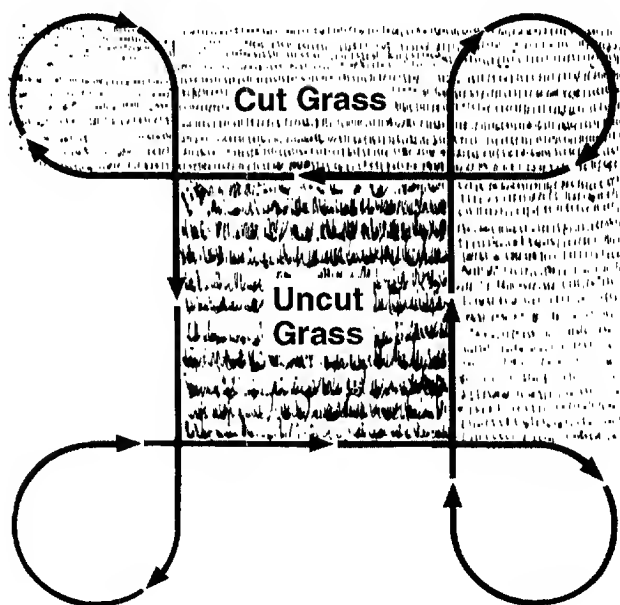


Figure 62

OPTIONAL EQUIPMENT AND ACCESSORIES

When you purchased your tractor, you probably had it completely equipped for your particular needs at the time. However, later you may wish to obtain optional equipment or accessories. These items and other allied equipment can be purchased from, and installed by, your authorized *Cub Cadet* dealer.

The tractor is used for so many different types of work, and because it is called on to operate under so many different conditions, a variety of equipment is available to adapt it to the requirements of the user. **Refer to the attachment guide for a complete description of equipment and required components that can be utilized with your tractor.**

MAINTENANCE CHART

Operation to be performed	Before each use	10 hours or once a month	30 hours or three times a season	50 hours or twice a season	100 hours or yearly	Before storage
Clean grille, engine air inlet screen, dash intake screen and side panel screens		More often under dirty conditions X				
Check engine oil level	X					
Fill fuel tank	X					
Change engine oil & oil filter	After first 5 hours				More often under dirty conditions X	
Check transmission oil level	X					
Replace transmission oil filter (2155 only)		After first 10 hours X		After first 50 hours X	Every 100 hours thereafter X	
Clean & re-oil foam air precleaner		X				
Check battery electrolyte level		X				
Grease front axle pivot bolt		X				
Grease steering knuckles		X				
Retorque rear wheel lug nuts		After first 10 hours X				
Clean cooling fins & external surfaces			X			
Service air cleaner paper cartridge					More often under dirty conditions	
Check spark plugs					X	X
Grease steering gear housing			X			
Grease front wheel bearings			X			X
Drain fuel						X
Pivot bar adjustment bolts				X		
Deck spindles				X		
Spindle belt idler arm				X		
Lubricate all foot and lift control pivot points		X				



NOTE

Maintenance information for optional equipment may be found in the manual which is included with that specific piece of equipment.

TROUBLE SHOOTING

Possible Cause

Possible Remedy

HARD TO START

No gasoline in fuel tank or carburetor	Fill the tank with gasoline. Check the fuel line, carburetor and fuel filter.
Fuel line or carburetor clogged.....	Clean the fuel line and carburetor with a commercial carburetor cleaner.
Fuel filter plugged.....	Replace.
Water in gasoline.....	Drain the fuel tank and carburetor. Use new fuel and dry the spark plugs.
Choked improperly. Flooded engine	Follow the starting instructions.
Defective ignition or loose wiring.....	Check the wiring, spark plugs or fuse.
Defective battery	Check and service. Refer to "BATTERY."
Spark plug dirty or improper gap	Clean, adjust the gap to .040-inch or replace the plug.

ENGINE OPERATES IRREGULARLY OR KNOCKS

Engine incorrectly timed	*
Spark plug dirty; wrong gap or wrong type.....	Clean, reset the gap or replace.
Poor or weak spark	Check the spark plugs and wiring.
Carburetor setting incorrect.....	Adjust. Refer to "ADJUSTMENTS."
Poor grade fuel or water in fuel	Drain and use a good grade of clean fuel.
Engine overheating	Refer to "MAINTENANCE."
Engine valves at fault	*
Engine smokes.....	Adjust the carburetor.*
Oil level rises due to gasoline in crankcase	*
Air filter becomes oil and fuel soaked.....	*
Engine leaks oil	*
Misfiring.....	*
Other engine problems.....	*
Excessive oil in air cleaner.....	Be sure that oil dipstick is fully seated and all excess oil is squeezed out of the pre-cleaner foam element.

PTO CLUTCH WILL NOT ENGAGE

Low or zero voltage	Check battery. Charge or replace. Check charging system. Check for worn or broken wiring or connections. Check clutch coil resistance. Check switch.
Rotor/armature air gap too large	Rotor/armature worn. Replace PTO clutch.

* See your authorized dealer.

TROUBLE SHOOTING

Possible Cause	Possible Remedy
LACK OF POWER	
Air cleaner clogged	Service the air cleaner element. Refer to “ MAINTENANCE. ”
Engine overload	Reduce the load.
Engine overheated	Make sure the air intake screen, shrouding, engine fins, side panels, dash intake screen and grille are free of accumulated dirt and debris. Refer to “ MAINTENANCE. ”
Fuel tank air vent clogged	Remove obstruction from the vent in the fuel tank cap.
Air leakage between carburetor and engine	Remove air cleaner. Tighten the carburetor and manifold mounting nuts. Replace any damaged parts as indicated in “ MAINTENANCE. ”
Incorrect timing or faulty ignition	*
Brake dragging	Adjust the brake. Refer to “ ADJUSTMENTS. ”
Insufficient cooling air — dirt or debris clogging the: air intake screen • shrouds • cooling fins • side panels • dash intake screen • or grille	Keep the air intake area, side panels, grille, dash intake screen and cooling fins clean; refer to “ MAINTENANCE. ”
Oil level incorrect	Engine oil level must not be over the “FULL” mark or below the “LOW” mark on dipstick. Refer to “ MAINTENANCE. ”

* See your authorized dealer.

LUBRICATION TABLE

Point of Lubrication	Check at Hours	Change at Hours	Capacity	Anticipated Air Temperature	
				Above + 32°F	Below + 32°F
Engine crankcase	Check before each use	100	Approx. 4 pints	<i>Cub Cadet</i> Engine Oil SAE 10W30 or 10W40	<i>Cub Cadet</i> Engine Oil SAE 5W20 or 5W30
Six speed transaxle (2150) or Hydro drive unit and transmission case with filter (2155)	Check before each use	Add as needed	Approx. 6.8 qts Approx. 7 qts	<i>Cub Cadet</i> Drive System Oil NOTE: <i>Cub Cadet</i> Drive System Oil is specially formulated for this application. If any other oil is used <i>Cub Cadet</i> will not be responsible for substandard performance. Failures due to use of improper fluid are not covered by warranty. For maximum protection, use <i>Cub Cadet</i> Drive System Oil.	
Drive clutch—six speed (2150)	†	†	Approx. 21 fl.oz.	† <i>Cub Cadet</i> Hydraulic Transmission Fluid	
Steering knuckles and front axle pivot bolt	10			Use 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply two strokes (minimum) or sufficient grease to flush out old grease and dirt.	
Front wheel bearings	30			Two strokes (minimum) of the lubricator using 251H EP grease or equivalent No. 2 multi-purpose lithium grease.	
Steering gear housing	30			Two strokes (minimum) of the lubricator using 251H EP grease or equivalent No. 2 multi-purpose lithium grease.	
Deck spindles	50			Two strokes (minimum) of the lubricator using 251H EP grease or equivalent No. 2 multi-purpose lithium grease.	
Spindle belt idler arm	50			Two strokes (minimum) of the lubricator using 251H EP grease or equivalent No. 2 multi-purpose lithium grease.	
Foot and lift control pivot points	10			Use a liberal amount of high grade lubricating oil.	

† The drive clutch is a sealed unit which requires no regular maintenance. Contact your *Cub Cadet* dealer if service is required.

LUBRICATION GUIDE



WARNING

The service life and reliability of any machine depends upon the care it is given. Proper lubrication is a very important part of that care. This lubrication schedule reflects the minimal requirements to maintain the equipment. More frequent inspections and maintenance is preferable.

Using the lubrication illustration as a guide, make certain that all lubrication fittings are installed and functioning.

Be sure all fittings are free from dirt and paint so the lubricant is certain to enter the bearing.

Using a pressure lubricating gun, always force the lubricant through the full length of each bearing until it emerges at the end, carrying with it the worn lubricant and any dirt that may have entered the bearing.

Miscellaneous working parts not provided with lubrication fittings should be oiled regularly with a good grade of lubricating oil.

Always lubricate the tractor thoroughly before taking it to a remote location for a prolonged period of time.

Lubricant is cheap. Use plenty of it. Worn parts can be expensive to replace.

Keep your supply of lubricating oil and grease stored in clean containers, and covered to protect from dust and dirt.

Keep the lubricating gun nozzle clean and wipe dirt from the grease fittings before lubricating.

The symbols in the illustrations indicate the method of application and the hourly intervals to apply the lubricant.



Use a pressure lubricating gun and apply 251H EP grease (or equivalent No. 2 multi-purpose lithium grease) sufficient to flush out the old grease and dirt. Lubricate at the hourly intervals indicated on the symbols.

Dipstick, use to check engine and transmission oil before each use.

LUBRICATION GUIDE

—Before Each Use

1. Engine filler cap and dipstick
2. Transmission oil level and fill port

Check the oil (with the engine stopped) and add sufficient new oil to bring it to the **“FULL”** mark on the dipstick. Do not overfill. Do not operate the engine if the oil level is below the **“LOW”** mark on the dipstick.

Check the oil with the engine stopped. Keep the lubricant up to the **“FULL”** mark on the dipstick.

NOTE: The transmission oil level and fill port services the following:

1. Rear axle (Models 2150 and 2155)
2. Hydrostatic transmission (Model 2155 only)

—After Every 10 Hours of Operation

3. Steering knuckles (2) (both sides)
4. Transmission oil filter (Model 2155 only)
5. Front axle pivot bolt
6. Foot and lift control pivot points

Use 251H EP grease or an equivalent No. 2 multi-purpose lithium grease and apply sufficient grease to flush out old grease and dirt.

NOTE: After the first 10 hours only, remove the transmission oil filter and replace with a new filter. Refer to **“MAINTENANCE.”** Change the transmission oil filter after 50 hours and every 100 hours of operation thereafter.

Use 251H EP grease or an equivalent No. 2 multi-purpose lithium grease and apply sufficient grease to flush out old grease and dirt.

Use a liberal amount of high grade lubricating oil.

—After Every 30 Hours of Operation

7. Front wheel bearings
8. Steering gear housing (2)

Two or three strokes minimum of the lubricator using 251H EP grease or an equivalent No. 2 multi-purpose lithium grease.

Every 30 hours or three times a season, use 251H EP grease or an equivalent No. 2 multi-purpose lithium grease. Apply two strokes with lubricator.

—After Every 50 Hours of Operation

9. Transmission oil filter (Model 2155 only)
10. Deck spindles
11. Spindle belt idler arm

NOTE: After the first 50 hours only, remove the transmission oil filter and replace with a new filter. Refer to **“MAINTENANCE.”** Change the transmission oil filter every 100 hours of operation thereafter.

Use 251H EP grease or an equivalent No. 2 multi-purpose lithium grease and apply 2 strokes (minimum) or sufficient grease to flush out old grease and dirt.

Use 251H EP grease or an equivalent No. 2 multi-purpose lithium grease and apply 2 strokes (minimum) or sufficient grease to flush out old grease and dirt.

—After Every 100 Hours of Operation

12. Transmission oil filter (Model 2155 only)
13. Engine oil drain valve and oil filter

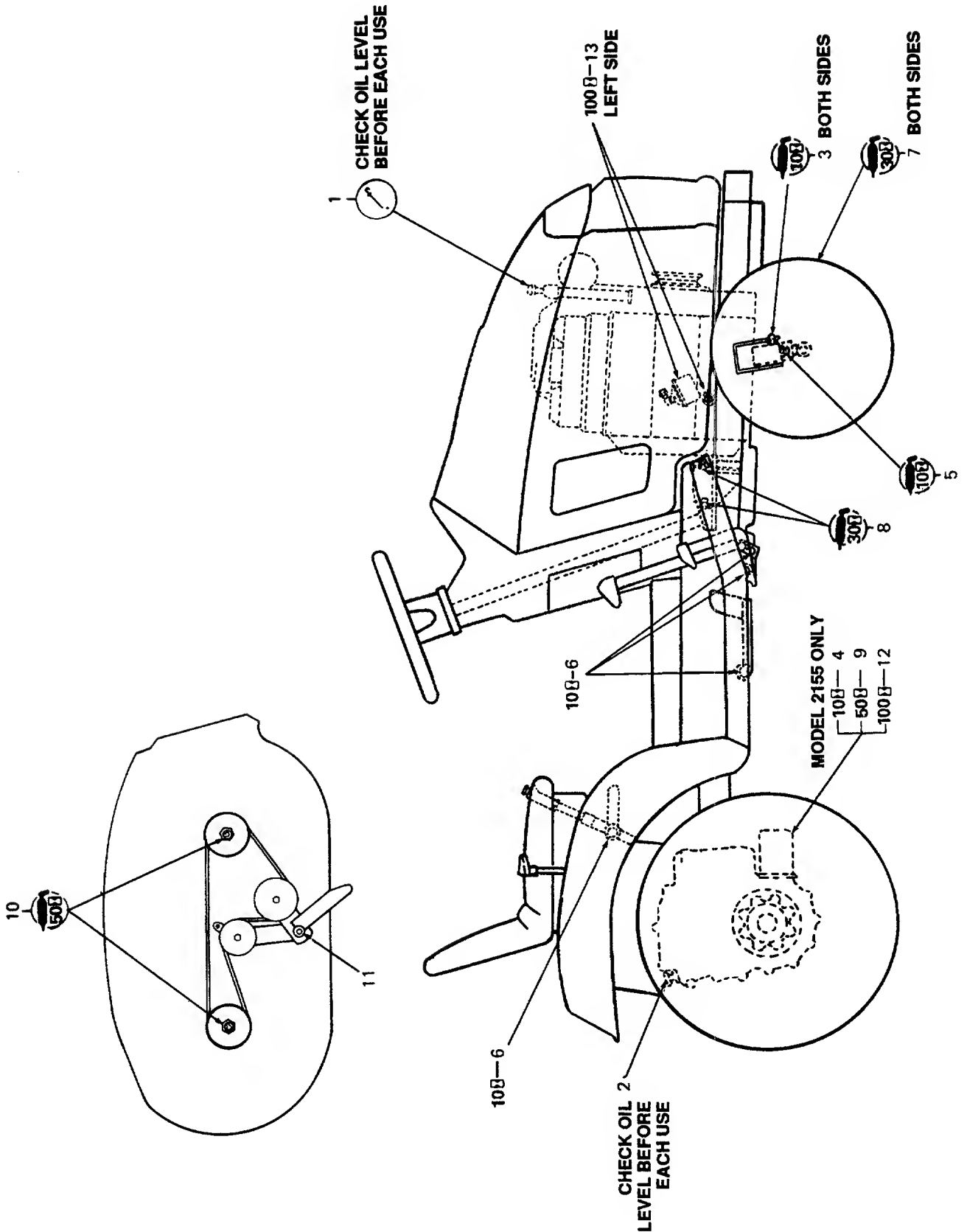
Change the transmission oil filter and replace with a new filter. Refer to **“MAINTENANCE.”**

While the engine oil is warm, open the drain valve and remove the oil filter, and drain all of the oil from the crankcase. Close the drain valve. Refer to **“MAINTENANCE,” “FILLING THE CRANKCASE”** and **“OIL FILTER”** for proper oil filling procedure. Refer to **“LUBRICATION TABLE”** for the proper quantity and viscosity to use.



Lubrication information for optional equipment may be found in the manual which is included with the specific piece of optional equipment.

LUBRICATION GUIDE



SPECIFICATIONS

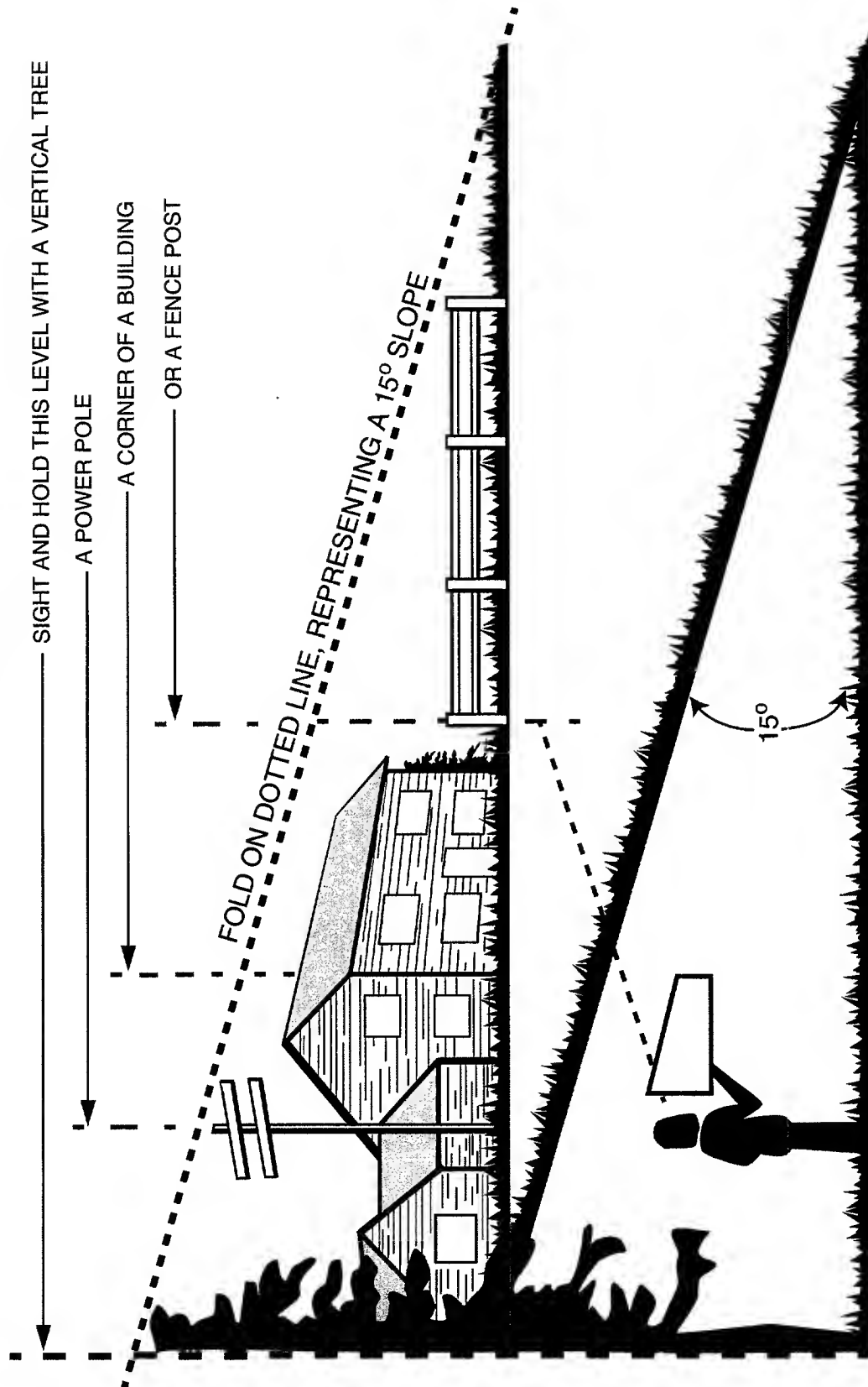
	2150	2155
CAPACITIES		
Fuel Tank	3 gallons	
Crankcase (approximately)	4 pints	
Transmission Case (approximately)	6 qts.	
SIX SPEED DRIVE		
Speed: Forward	0 to 5 mph	
Reverse	0 to 3 mph	
HYDROSTATIC DRIVE		
Speed: Forward		0 to 5.5 mph
Reverse		0 to 3 mph
ENGINE		
Make and Model	Kohler Command	
Horsepower	15 HP	
Cylinders	1	
Bore	3.43 in.	
Stroke	2.64 in.	
Displacement (cubic inches)	24.29	
Engine Speed (governed)		
Low Speed	1400 RPM	
High Speed (no load)	3600 RPM \pm 75	
Ignition	Battery	
Spark Plug Gap (Cub Cadet No. 759-3336)040 in.	
ELECTRICAL SYSTEM		
System Voltage	12 volt neg. ground	
Battery	725-1707B	
Alternator	15 amp regulated	
Fuse (auto type)	25 amp	
Head Lamp Bulb	759-3693	
BRAKES	Internal expanding	
TIRE SIZES		
Front	15 x 6-6	
Rear	20 x 9-8	
DIMENSIONS		
Tread:		
Front with 15 x 6-6 tires	30.00 in.	
Rear with 20 x 9-8 tires	27.50 in.	
Wheelbase	47.00 in.	
Length, over all	72.00 in.	
Width, over all (w/ mower deck - chute up)	51.00 in.	
Height, over all (to top of steering wheel)	42.00 in.	
Ground Clearance	6.00 in.	
Turning Radius	26.50 in.	

Specifications are subject to change without notice.

SLOPE GAUGE

(Keep this sheet in a safe place for future reference.)

USE THIS PAGE AS A GUIDE TO DETERMINE SLOPES WHERE YOU MAY NOT OPERATE SAFELY.



WARNING

Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2-1/2 feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious injury. Operate RIDING mowers up and down slopes, never across the face of slopes. Operate WALK-BEHIND mowers across the face of slopes, never up and down slopes.

EMISSION CONTROL SYSTEMS WARRANTY

CALIFORNIA 2 YEAR EMISSION CONTROL SYSTEMS WARRANTY

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board and Kohler Co. are pleased to explain the emission control systems warranty on your 1995 and later utility engine. In California, new utility engines must be designed, built and equipped to meet the State's stringent anti-smog standards. The engine manufacturer must warrant the emission control system on your utility engine for the period of time listed below provided there has been no abuse, neglect or improper maintenance of your utility engine.

Your emission control system includes the carburetor, ignition system and crankcase breather.

Where a warrantable condition exists, the engine manufacturer/authorized dealer will repair your utility engine at no cost to you including diagnosis, parts and repair labor.

MANUFACTURER'S WARRANTY COVERAGE

The 1995 and later utility engines are warranted for two years. If any emission control part on your engine is defective, the part will be repaired or replaced by the engine manufacturer/authorized dealer.

OWNER'S WARRANTY RESPONSIBILITIES

As the utility engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. The engine manufacturer recommends that you retain all receipts covering maintenance on your utility engine, but the engine manufacturer cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the utility engine owner, you should be aware, however, that the engine manufacturer may deny you warranty coverage if your utility engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your utility engine to your authorized dealer or a Kohler Co. service center as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact your authorized dealer.

ENGINE MANUFACTURER EXPLANATION OF WARRANTY COVERAGE

WARRANTY COMMENCE DATE

The warranty period begins on the date the engine is delivered to the original consumer.

LENGTH OF COVERAGE

The engine manufacturer warrants to the original consumer and each subsequent purchaser that the emission control system of each engine sold will be free from manufacturing defects in material or workmanship in normal service for a period of two years.

WHAT IS COVERED

Our obligation under this warranty is expressly limited, at our option, to the replacement or repair of defective parts. This will be done at your authorized dealer or at a Kohler service facility. Repair or replacement (parts and labor) will be performed at no charge to the owner at a warranty station.

The emissions control systems warranty covers the following warranted parts only:

- Carburetor assembly
- Intake manifold (if equipped)
- Fuel lines (if equipped)
- Crankcase breather
- Ignition modules with high tension lead
- Spark advance module (if equipped)
- Air filter, fuel filter and spark plugs (only to first scheduled replacement point)

The owner will not be charged for diagnostic labor for emission control systems warranty repairs which leads to the determination that a warranted part is defective. Diagnostic work must be performed at a warranty station to be free of charge.

The engine manufacturer is liable for damages to other engine components caused by the failure of a warranted part still under warranty.

WHAT IS NOT COVERED

The emission control systems warranty does not cover:

Maintenance parts such as air filters, oil filters and spark plugs after the first scheduled replacement point. Requirements for replacement are dependent upon the environment (dust and dirt in the air), time of use and the operators maintenance program over which the engine manufacturer has no control.

Malfunctions in any "warranted part" caused by any of the following: abuse, misuse, modification, alteration, use of add-on parts, tampering, disconnection or improper or inadequate maintenance.

Damage resulting from accidents, acts of nature or other events beyond the control of the engine manufacturer.

Repairs and services performed by anyone other than your authorized dealer or a Kohler Co. service center.

Loss of time, inconvenience, loss of use of the engine or commercial loss.

WHERE TO GET WARRANTY SERVICE



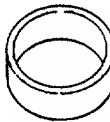




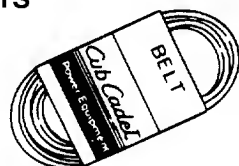
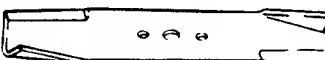
Warranty services or repairs shall be provided at your authorized dealer or a Kohler service center. Your dealer or the service center will take care of filing the warranty claim.

MAINTENANCE, REPLACEMENT AND REPAIR OF EMISSION RELATED PARTS

The engine control system of your Kohler engine was designed, built and tested using only genuine Kohler Co. parts and with these parts the engine is certified as conforming with California emission control regulations. KOHLER CO. RECOMMENDS THAT ONLY GENUINE KOHLER PARTS BE USED FOR MAINTENANCE, REPAIR OR REPLACEMENT OF THE EMISSION CONTROL SYSTEM.

Use of replacement parts which are not equal in quality to genuine Kohler Co. parts may impair the effectiveness of the emission control system or otherwise damage your engine. If other than Kohler Co. parts are used for maintenance, replacement or repair of components affecting emission control components, you should obtain written assurances that such non-Kohler Co. parts are warranted by their manufacturer to be equal in quality to Kohler Co. parts in both performance and durability. The use of non-Kohler Co. replacement parts does not invalidate the warranty of any other component unless the non-Kohler parts cause damage to warranted parts. However, THE ENGINE MANUFACTURER ASSUMES NO LIABILITY UNDER THIS WARRANTY WITH RESPECT TO ANY PARTS WHICH ARE NOT GENUINE KOHLER CO. PARTS, unless Kohler Co. parts cause damage to non-genuine parts.

MAINTENANCE PARTS CHART

MODELS 2150 AND 2155		SERIES 2000 15 HP KOHLER		
ENGINE OIL 	Engine Oil Requirements approx. ...4 pints		Part No.	
	Cub Cadet engine oil Ambient temperature viscosity (Grade SG or SH) Above +32 F SAE 10W30 or 10W40 Below +32 F SAE 5W20 or 5W30		737-3030A (10W30) 737-3049 (5W30)	
AIR FILTER  CARTRIDGE  FOAM PRE-CLEANER	Air Filter Requirements		Part No.	
	Clean air filter per instructions in your owner's manual... under maintenance air cleaner.		Cartridge 759-3547 Foam Pre-cleaner KH-52-083-01	
ENGINE OIL FILTER 	Engine Oil Filter Requirements		Part No.	
	Change every 100 hours		KH-12-050-08	
SPARK PLUG 	Gap Requirements		Part No.	
	.040 inch gap		759-3336	
TRANSMISSION OIL FILTER 	Oil Filter Requirements (2155 only)		Part No.	
	Change every 100 hours		723-3014	
TRANSMISSION OIL 	Transmission Oil Requirements approx. ... 6 qts.		Part No.	
	Check before each use 1 quart 1 gallon		737-3055 737-3054	
BELTS 	Deck Blade Belt		Tractor to Deck Belt	
	Model	Part No.	Model	Part No.
	42" Deck	754-3073	42" Deck	754-3055A
BLADES 	Original Equipment Blade		Bagging Blade	
	Size	Part No.	Size	Part No.
	42"	742-3018 (2)	42"	742-3017 (2)